GEOQUEST

Geosynthetics

SOLUTIONS FOR SOIL REINFORCEMENT, ENVIRONMENTAL PROTECTION AND DRAINAGE

Geoquest delivers **geosynthetics solutions** such as geogrids, geotextiles, geocells, erosion control mats, and drainage solutions, designed to meet specific project needs in civil engineering and infrastructure.

Our solutions offer durability, safety, and cost-efficiency, providing sustainable alternatives for soil reinforcement, environmental protection, and drainage.

Reinforcement

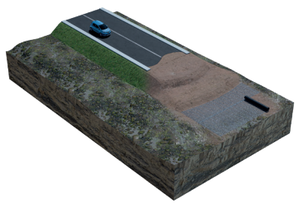
Our reinforcement solutions are designed to stabilize weak soils, support heavy loads, and ensure long-term structural integrity in demanding construction environments.

ArmaLynk

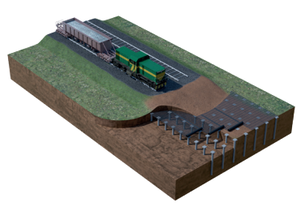
ArmaLynk geogrids are high strength uniaxial (up to 1800 kN/m) or biaxial geogrids for soil reinforcement, manufactured from high tenacity polyester yarns, extrusion-coated to form polymeric strips encased in polyethylene sheath, and welded together to cross strips to generate a stable and strong geogrid structure.

They are used for various basal reinforcement applications like embankment over soft soils or over rigid inclusions, void bridging and challenging ground stabilization of building roads, bridges, railways, working platforms, and heavy-duty pavements.

The use of ArmaLynk geogrids in projects generally leads to significant reduction of the carbon footprint compared to traditional solutions.



Soft and very soft soils



Rigid inclusions

Void bridging

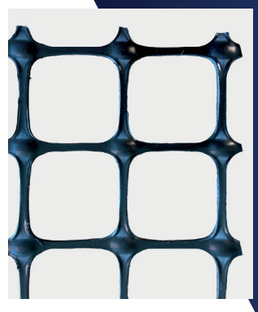
Our solutions offer several advantages when compared to traditional methods such as substitution, chemical stabilization, voids injection, and others. These conventional geotechnical approaches are typically more costly to implement due to requiring careful construction staging, additional time, more fill material consumption and use of specialized equipment.

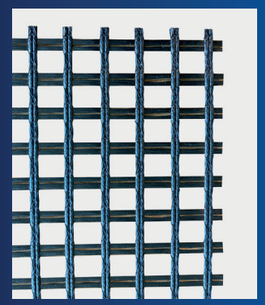
ArmaGrid

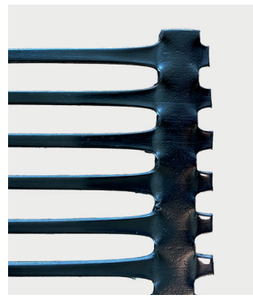
ArmaGrid geogrids are engineered to deliver reliable soil reinforcement and soil stabilization across a wide range of civil engineering applications. The solution combines high tensile strength with excellent durability, making it ideal for challenging environments and long-term performance.

Manufactured from polyester (PET), high-density polyethylene (HDPE), polypropylene (PP) or Glass Fiber, ArmaGrid geogrids are available in both uniaxial and biaxial configurations to suit specific structural needs. Their open grid structure ensures optimal interaction with soil, improving load distribution and reducing differential settlement.

ArmaGrid geogrids are widely used in transport infrastructures and mining. Thanks to their chemical resistance and ease of installation, they offer a cost-effective and sustainable solution for infrastructure projects. Whether you are building on soft soils or reinforcing steep slopes, ArmaGrid provides the strength and stability to your project demands.





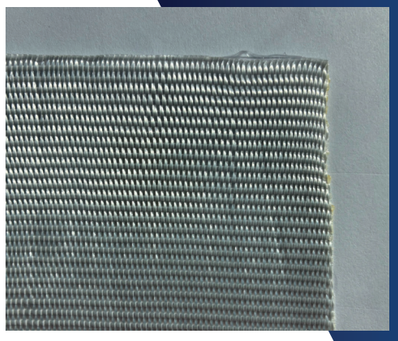


ArmaWeb

ArmaWeb geocells have a three-dimensional, honeycomb-like structure. They are made from high-density polyethylene (HDPE). When filled with soil, aggregate, or other materials, geocells provide confinement and stabilization in pavement and erosion control on steep slopes.

GeoTextile

The woven geotextiles are composed of high-tenacity multifilament polyester yarns, which are woven into a dimensionally stable construction such that the yarns retain their relative positions. Their main functions are reinforcement, confinement, stabilization.
The non-woven geotextiles are needle-punched to provide excellent strength and hydraulic characteristics necessary for filtration, separation, protection, ground stabilization, drainage, and erosion control applications.



Environmental Protection

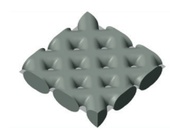
From erosion control to coastal protection, our solutions preserve the environment by:

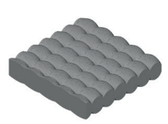
- Protecting against soil loss through surfaces stabilization and vegetation growth support.
- Minimizing the need for the excavation of natural materials (such as gravel and soil).
- Reducing sediment runoff into nearby water bodies.
- Providing containment of hazardous materials and mitigating seepage into the environment.

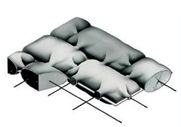
Fabric-Formed Concrete Mattress

Fabric-Formed Concrete Mattresses (FFCMs) consist of fine aggregate concrete pumped between two layers of geosynthetic fabric at the project site. The resulting erosion control mattresses have the strength of traditional rock or pre-cast concrete options, while also providing an easier, safer, customizable and affordable installation.

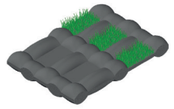
FFCMs are pre-engineered or custom-made and are used for permanent erosion protection works. Depending upon project requirements, the types of fabric formwork offered include:


FILTER POINT


UNIFORM SECTION


ARTICULATING BLOCK


FILTER BAND


ENVIRO MAT


ARMOR UNITS

Fields of applications

This technology can also be installed under water. It is used to protect dry or wet embankments, defend bridge abutments against scour, and provide scour protection for flood banks and bed protection of major rivers and waterways, harbour quays, lining of canals and for mining and industrial erosion protection and applications.

This solution can be installed in:

Landfills

Mining

Airports

Bridges and Piers

Locks and Dams

Ports, Harbour and Coastal

Rivers and Canals

Roads and Highways

TerraGreen

TerraGreen composite blankets are essentially made from natural coco fiber with one geosynthetic layer on one side or both sides of the mattress. Very often they are recognized as non-woven natural geotextile.

They are a custom designed erosion control mats useful for protecting dry and intermittently wet and erodible slopes.

TerraGreen blankets are an eco-friendly organic solution for erosion protection by prompting faster vegetation growth. The lifespan of the solution under normal conditions is typically between 12 and 15 months.

They can be used as a stand-alone technique or in combination with other solutions like TerraNail or TerraAnchor. They are often used to mitigate low to medium grade surface erosion, preventing potential surficial soil slips and slides.

Fields of applications

TerraGreen blankets prompt vegetation growth in the following areas:

- Embankment slope surface protection in railroads and highways.
- Surface protection for mine dumps.
- Hill slope surface protection to mitigate surficial land slippages.

Drainage

Our advanced drainage solutions are suitable for efficiently managing fluids even under high loads and in challenging conditions.

Multilinear Drainage Geocomposite

Multilinear Drainage Geocomposite has unique benefits over other geocomposite drainage solutions; such as no geotextile intrusion, no creep and no peel adhesion issue.

Multilinear Drainage Geocomposite with drainage conduits (Perforated mini-pipes) regularly spaced between two geotextiles.

These ensure long term performance in most difficult conditions. Each roll performs the functions of separation, filtration and drainage.

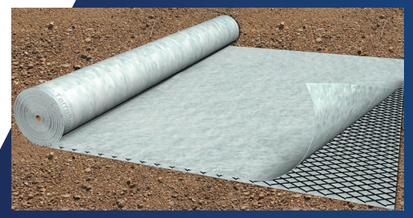
Fields of applications

- Roads and Highways
- Railways
- MSE Walls
- Mining
- Energy
- Environmental

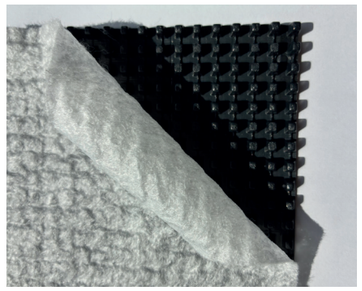
TerraFlow

TerraFlow draining geosynthetic is a High-Density Polyethylene (HDPE) geonet with the possibility to become geocomposite, having PP or PET non-woven geotextile heat bonded on one or both sides.

- Bi-planar geonet is designed with two HDPE strands crossing each other at a constant angle to form a diamond structure to provide better planar waterflow under high loading.
- Tri-planar geonet consists of three HDPE strands to improve the lateral drainage and transmissivity.



Dimple/Cuspated drainage boards



Dimple/ Cuspated drainage boards is a three-dimensional dimpled design made from durable high-density polyethylene (HDPE) to efficiently manage water drainage.

The raised dimples create air gaps or drainage channels. Often combined with a PET or PP geotextile fabric that filters out soil and debris, ensuring drainage channels remain unclogged. The dimpled structure directs water laterally through void spaces to designated drainage points, preventing water buildup against surfaces like retaining walls, basements, or foundations.

Three-dimensional drainage geocomposite

Three-dimensional drainage geocomposite is made from stiff, high-strength three-dimensional matrix of entangled extruded monofilament polypropylene (PP) strands bonded between layers of PET or PP non-woven geotextiles.

Fields of applications

- Landfills
- Roads and Highways
- Railways
- Mining
- Sports fields

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

GEOQUEST

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