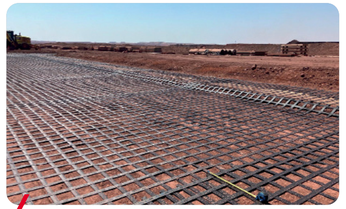
Projects

Costa Verde, Peru



Mining project Pilbara, Australia

Penang, Malaysia

Want to discover more? Check our website by scanning this QR code

Geotechnical engineering,
innovative solutions to

Retain / Cross / Protect / Strengthen

GEOQUEST

Geoquest Hong Kong
geoquest_group
Geoquest Group

www.geoquest-group.com.hk/

©2026 Solétanche Freyssinet - The text, photos and other information contained in this catalogue are the property of Solétanche Freyssinet. Any reproduction, display or other use, in full or part, without the prior consent of Solétanche Freyssinet is prohibited. Publication September 2026

GEOQUEST

Geosynthetics segment

ArmaLynk

The high-strength basal reinforcement solution to ensure long-term performance in challenging weak soils

ArmaLynk PET is a high-strength uniaxial or biaxial geogrid manufactured from high-tenacity polyester (PET) yarns encapsulated in a linear low-density polyethylene (LLDPE) sheath, providing protection against environmental exposure and installation damage. The reinforcing strips are welded together to create a durable geogrid structure. ArmaLynk PET is available in nominal tensile strengths ranging from 300 to 1,800 kN/m, with roll sizes tailored to project requirements.

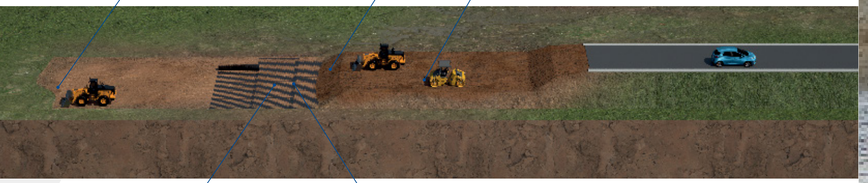
ArmaLynk PVA is a high-strength uniaxial or biaxial geogrid manufactured from polyvinyl alcohol (PVA) yarns encapsulated in a protective LLDPE sheath. Using the same welded strip construction, ArmaLynk PVA is available in nominal tensile strengths ranging from 100 to 1,000 kN/m.

ArmaLynk is used in a wide range of reinforcement applications requiring high tensile strength and control of differential settlement. ArmaLynk geogrids are well suited for high embankments, landfill extensions, lagoon closures, access roads and load transfer platforms. In areas susceptible to void formation or localized ground loss, ArmaLynk can provide bridging support to help maintain ground stability and limit surface collapse.

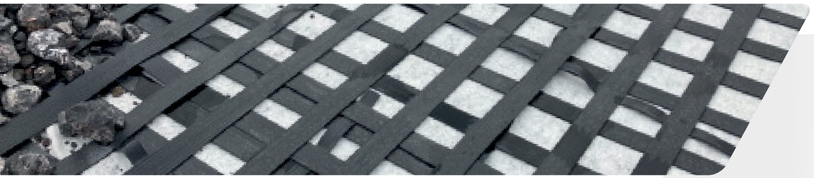
Challenges

- Construction over weak, soft or subsiding soils
- Risk of sudden collapse and differential settlement
- Expansion in landfill, land reclamation, and subsidence-prone areas
- Need for load transfer over voids or soft foundations
- High costs and complexity of traditional ground improvement methods (e.g., soil replacement, preloading, chemical stabilization)

Solution



- High tensile strength and low strain polyester (PET) or polyvinyl alcohol (PVA)
- Designed in uniaxial and biaxial configurations for reinforcement and load distribution in shallow foundations and embankments
- Protected by a high durability linear low-density polyethylene sheath (LLDPE)
- Long-term durability with low creep deformation
- Resistance to chemical and biological degradation
- Compatibility with various soil types and environmental conditions: 2-9 pH for PET and 2-12 pH for PVA
- Produced with a unique non-invasive welding process
- Large rolls up to 5.7m



Efficient installation for reliable soil reinforcement

Surface scraping when necessary

Laying down of geogrids, one to two layers according to design requirements

Backfilling and compaction

Benefits

- Improves soil reinforcement, load-bearing capacity and reduces differential settlement
- Offers both uniaxial and biaxial geogrids in polyester (PET) or polyvinyl alcohol (PVA)
- Reduces the need for over-excavation and the consumption of natural materials
- Applicable across transportation infrastructure and environmental projects
- Long-lasting materials reducing maintenance and environmental impact
- Lightweight and flexible, simplifying logistics and installation

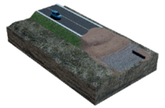
Geoquest services include:

- Extensive record in designing reliable and durable reinforced soil structures using geogrids, spanning over various types of applications and sectors
- On-site services with technical advice and guidance or site installation (depending on project and location)

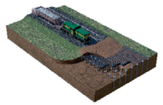
Support from A to Z

Geoquest supports each project from initial analysis to installation, ensuring a fully tailored and efficient delivery:

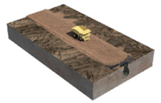
- Project assessment to define the most suitable solution
- Integrated design aligned with technical and operational requirements
- Manufacturing of customized configurations
- On-site guidance and installation support



Weak and very soft soils



Rigid inclusions



Void bridging

ArmaLynk is suitable for a wide range of applications

ArmaLynk meets the increasing complexity of geotechnical projects where weak ground conditions, settlement sensitivity, and construction constraints must be addressed simultaneously. Combining very high tensile strength with controlled deformation behavior, ArmaLynk remains efficient with a performance over the long term even in very demanding environments.

ArmaLynk offers versatility across geotechnical applications, providing effective reinforcement solutions for challenging ground conditions. Available in a range of roll sizes and installation configurations, it can be optimized to meet the unique demands of each project.

The solution limits excavation volumes, reduces the use of imported materials, and offers an alternative to traditional ground improvement techniques, it helps lower construction time, material consumption, and associated environmental impact. These advantages make ArmaLynk particularly relevant in the context of today's economic, environmental, and regulatory challenges associated with existing certifications and documentation (BBA, CE, EPD).

The solution is tailored for:

Roads and Motorways · Railways · Airports · Industry · Military

Waste Management · Functional Facilities · Energy · Mining

Discover our solutions for your projects:

REINFORCED EARTH · PRECAST · GEOSYNTHETICS · GEOHAZARDS · CORRUGATED STEEL

REINFORCED EARTH is now GEOQUEST