SOLMAX

SOLMAX SOLUTIONS

Engineered geosynthetic products and systems for civil and environmental applications

SOLMAX

Leading sustainable solutions for civil and environmental infrastructure

Solmax is the largest geosynthetics company in the world, offering an unparalleled breadth of solutions across geosynthetics categories. Our solutions portfolio includes the industry's leading brands; **GSE®**, **MIRAFI®**, **PROPEX®**, **FABRINET®**, **MIRAGRID®**, **BENTOLINER®** and **GEOTUBE®**. In Solmax Americas, we manufacture this comprehensive family of products in eight manufacturing facilities spread throughout the region.

There is no project we cannot serve. Together, let's build infrastructure better.

STABILIZATION AND ROADWAY REINFORCEMENT

Roads should be built to last, and the **MIRAFI** product line has the technologies to achieve this goal. We understand the importance of a strong foundation, and what goes into the ground has to be of the highest quality and meet the most stringent industry specifications.

Our stabilization and reinforcement geosynthetics enhance roadway performance, stability, and resilience. **MIRAFI** Geotextiles prevent the subgrade from intermixing with aggregate, increased effective bearing capacity and provide lateral confinement.

Product	Description	Functions
MIRAFI H_2Ri	High-performance geotextile with active moisture wicking	Drainage, Filtration, Reinforcement, Active Moisture Management, Separation
MIRAFI RS*i*	High-performance geotextile with passive moisture wicking	Drainage, Filtration, Reinforcement, Passive Moisture Management, Separation
MIRAFI N-Series	Nonwoven polypropylene geotextiles	Separation, Filtration, Drainage

Applications

- Paved Roadways
- Unpaved Roadways
- Access Roads and Haul Roads
- Airport Pavements
- Railway Construction & Ballast Stabilization
- Parking Lots
- Pipeline Construction
- Drilling and Crane Pads
- Laydown Yards/Storage Areas

Solmax solutions provide key performance including:

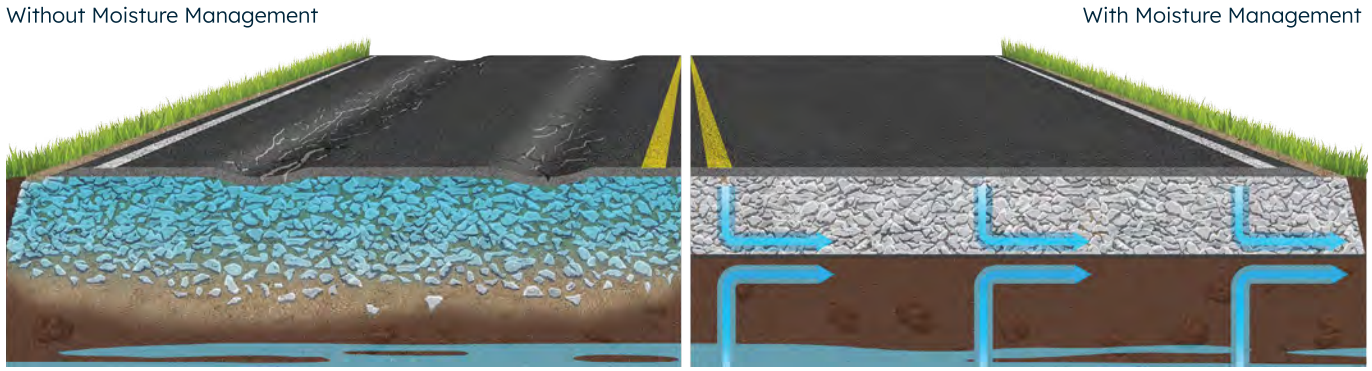
Cost savings - The use of a single product solution for roadway stabilization and reinforcement can reduce installation time and installation cost by half.

Increase performance life of the roadway – The service life of the geosynthetic is longer than the roadway itself. Once installed the geosynthetic will continue to improve performance and will not break down due to freeze/thaw and wet/dry cycles.

Sustainable roadways - Replacing traditional materials with **MIRAFI** H_2Ri or **MIRAFI** RS*i*-Series in roadway stabilization can reduce CO_2 emissions by more than 70%.[1]

Decrease future maintenance - If future maintenance is needed, it can occur above the level of the geosynthetic. **MIRAFI** H_2Ri & RS*i* will continue to improve the roadway's performance after maintenance and rehabilitation.

[1] Source: Koerner 2020



PAVEMENT REHABILITATION

Everyday wear and tear coupled with continuous population growth is taking its toll on roadway infrastructure. It is estimated that one out of every five miles of highway pavement is in poor condition, and there is an increasing backlog of road rehabilitation needs in the U.S.

Geosynthetics help rebuild roads more quickly and require less maintenance, resulting in shorter road construction and less congestion. Additionally, geosynthetics lower the cost to rehabilitate a roadway and use significantly less natural resources, allowing more road miles to be built with the same budget.

The Petromat product line offers a range of solutions for asphalt pavement rehabilitation.

Product	Description	Functions
Petromat Enviro	Millable paving fabric	Stress relief, moisture barrier, reflective crack management, rehealing, adhesive bonding
Petromat MPG	Paving composite grid	Reinforcement, stress relief, moisture barrier, reflective crack management, rehealing, adhesive bonding
Petromat MPM	Fiberglass paving mat	Stress relief, moisture barrier, reflective crack management, rehealing, adhesive bonding
Petromat MPV	Nonwoven paving fabric	Stress relief, moisture barrier, reflective crack management, rehealing, adhesive bonding
Petromat Petrotac	Self-adhesive waterproofing strip membrane	Stress relief, moisture barrier, adhesive bonding
Petromat Bond Breaker	Solar reflective nonwoven geotextile bond breaker	Moisture barrier, reflective crack management, bond breaking, reflective heat management

Applications

New Concrete Pavements
Asphalt Concrete Overlays
Parking Lots
Chip Seal Surface Treatments
Bridge Decks

EROSION CONTROL SYSTEMS

Surficial slope failure and soil erosion can occur in any region. Steepened slopes often require stabilization and protection from surface erosion. In some cases, when the slope is stable, protection from surface erosion is still required.

PROPEX erosion control solutions stabilize earth and enable vegetative growth, one of the most effective ways to prevent erosion and sediment runoff from disturbed land. Plus **PROPEX** solutions promote groundwater improvement and recharge.

Product	Description	Functions
PROPEX Armormax	Engineered Earth Armoring System	Surficial stabilization, Anchoring, Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Scourlok	Engineered Bank Stabilization	Scour protection, Bank stabilization, Anchoring, Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Pyrawall	Engineered Wrap-Face Vegetated System	Scour protection, Erosion protection, Fire resistant
PROPEX Pyramattress	Engineered Mattress System	Scour protection, Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Pyramat 75	High-Performance Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Pyramat 25	Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Landlok TRM	Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection
PROPEX ECB	Temporary Erosion Control Blanket	Temporary erosion protection

Applications

- Surficial Slope Stabilization
- Vegetated or Arid Environments
- Solar Farms
- Stormwater Management Systems

SHORELINE PROTECTION AND STABILIZATION

Our portfolio of tested and proven geosynthetic products range from solutions for channels, streambanks, ponds, low flow channels, levees, wetland creation and sand dune cores. Wind, rainfall, currents and waves are all natural factors that cause erosion and shoreline loss. The primary purpose of armoring shorelines and waterways is to prevent erosion resulting from hydraulic, climate or geotechnical forces.

Selecting the right solution is critical to overall performance including:

- Protecting the natural and riparian habitat
- Lowering operation and maintenance costs
- Extending project life
- Addressing aesthetic concerns

Product	Description	Functions
PROPEX Armormax	Engineered Earth Armoring System	Surficial stabilization, Anchoring, Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Scourlok	Engineered Bank Stabilization	Scour protection, Bank stabilization, Anchoring, Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Pyramat 75	High-Performance Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Pyramat 25	Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection, Fire resistant
PROPEX Landlok TRM	Turf Reinforcement Mat	Vegetated reinforcement, Erosion protection
GEOTUBE Marine	Engineered woven geotextile tubes	Erosion protection, Surficial stabilization
GEOTUBE TC1200	Engineered woven geotextile tubes	Erosion protection, Surficial stabilization

Applications

Surficial Slope Stabilization
Vegetated or Arid Environments
Solar Farms
Stormwater Management Systems
Bank Stabilization
Channel Protection
Scour Protection
Flood Protection
Levees

PROPEX Armormax

RETAINING WALLS, REINFORCED SLOPES & BERMS

Geosynthetic reinforced walls, slopes and berms are one of the most economical retaining systems for vertical structures. Solmax is the leader in geosynthetic reinforcement for these structures. Mechanically Stabilized Earth Walls (MSE walls) are retaining walls that use multiple layers of soil reinforcement to create a stable structure.

This technology is often used to build retaining walls with various facings, highway embankments, and reinforced steepened slopes. Similarly, Reinforced Soil Slopes (RSS) incorporate planar reinforcing elements in constructed earth-sloped structures with face inclinations of less than 70 degrees. **MIRAGRID** and **PROPEX** solutions allow these structures to be steeper, higher and more resilient.

Product	Description	Functions
MIRAGRID XT-Series	Uniaxial geogrid	Soil reinforcement
MIRAGRID Miramesh	Engineered wrap-faced vegetated system and secondary reinforcement	Soil reinforcement, erosion protection
PROPEX Pyrawall	Engineered wrap-faced vegetated system and secondary reinforcement	Soil and vegetated reinforcement, erosion protection, surficial stabilization

Applications

- MSE Walls
- Segmental Retaining Walls (SRW's)
- Reinforced Embankments
- Temporary Retaining Walls
- Reinforced Soil Slopes
- Berms
- Grade Separation

PROPEX Pyrawall

BARRIER AND CONTAINMENT

A geosynthetic barrier system represents a small fraction of the overall cost of a containment application, but provides nearly 100% of the protection. Solmax is the leader in barrier and containment systems for the effective management of solid waste, liquid waste, hazardous waste, mining materials and sludge.

Our geosynthetics solutions offer the key benefits of fluid barrier, leachate containment, leak detection and protection, for optimum waste solutions.

Product	Description	Functions
GSE Leak Location Suite	Specialized leak detection system	Barrier/containment, leak detection
GSE HD	High-density polyethylene geomembrane	Barrier/containment, reflective heat management
GSE LL	Linear low-density polyethylene geomembrane	Barrier/containment
GSE Studliner	HPDE concrete protection embedment liner	Barrier/containment
BENTOLINER (EC, NS, NW)	Geosynthetic clay liner	Barrier/containment
FABRINET (BP, TP, STX, DTX)	Geosynthetic net and composite drainage system	Drainage, filtration, separation
MIRAGRID XT	Uniaxial geogrid	Soil reinforcement, vertical berm capacity expansion
MIRAFI S-Series	Environmental Nonwoven geotextile	Cushioning

Applications

Leachate Containment
Coal Ash Barrier System
Landfill Capping
Remediation
Landfill Vertical Expansions
Mining

FILTRATION AND DRAINAGE

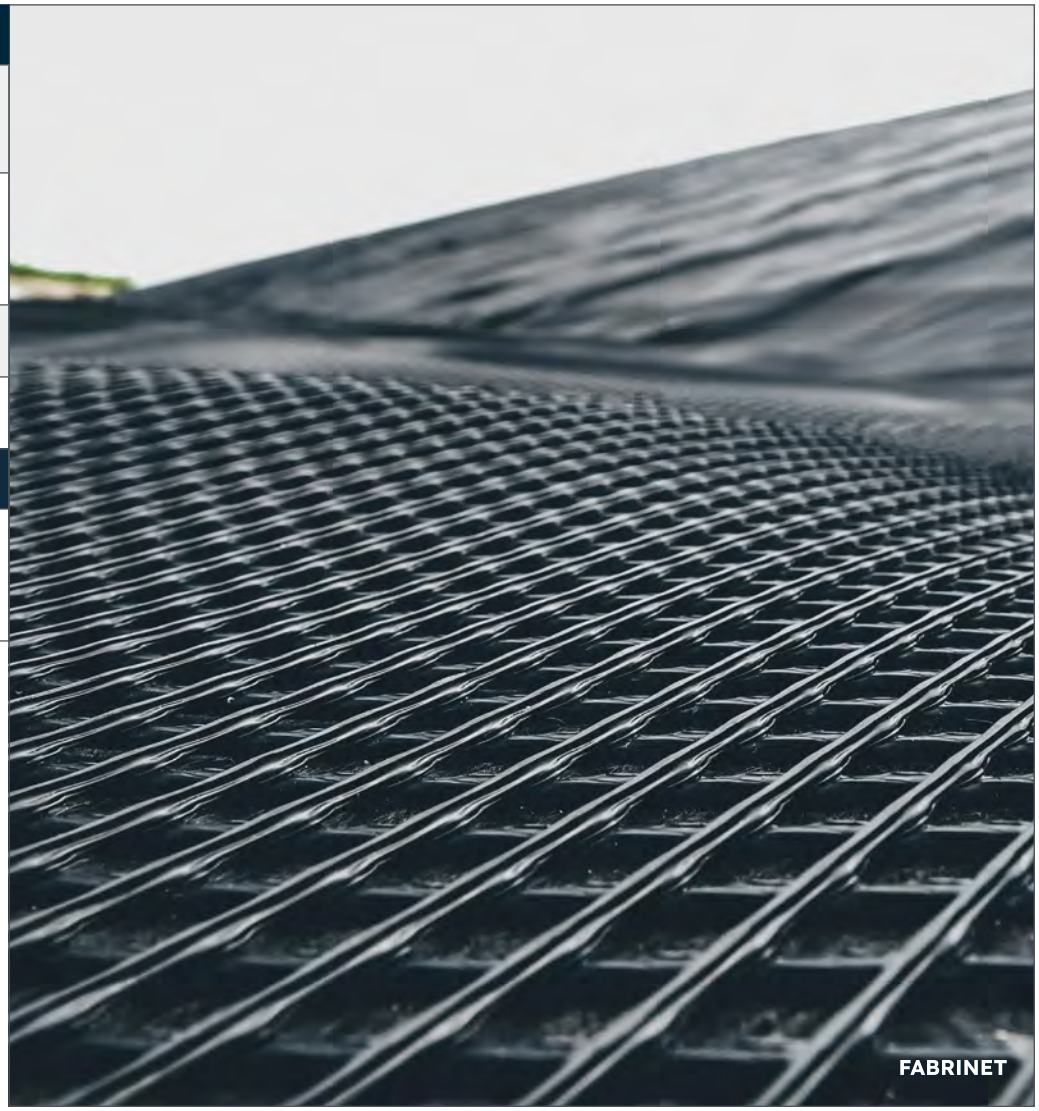
The design of geosynthetic filters for very fine-grained soils is one of the most challenging geotechnical problems. These soils include coal combustion by-products, silts, fine sands and dispersed clays.

Geosynthetics support the mechanical and hydraulic filter stability of drainage systems, allowing filtration of very fine soils without such concerns as clogging and piping.

Product	Description	Functions
FABRINET (BP, TP, STX, DTX)	Geosynthetic net and composite drainage system.	Barrier/containment, leak detection
MIRAFI FW-Series	UV-stabilized, woven geotextile engineered for filtration and drainage applications	Drainage, filtration, separation
MIRAFI G-Series	Drainage composite	Drainage, filtration
MIRAFI N-Series	Nonwoven geotextile	Drainage, filtration, separation

Applications

Drainage Systems
Coal Ash Barrier Systems
Leachate Collection and Remove Systems
Heap Leach Recovery
Solution Ponds
Tailing Storage



POND CLOSURES AND CAPPING

Solmax leads the industry in providing geosynthetics for managing sludge and waste. High performance geotextiles are used to stabilize soft/wet waste ponds, including coal ash, industrial waste and other sludge, to allow the placement of the top cover system and compacted fill.

Solmax offers a range of products that provide barrier and containment to pond caps and closures.

Product	Description	Functions
GSE Leak Location Suite	Specialized leak detection system	Barrier/containment, leak detection
GSE HD	High-density polyethylene geomembrane	Barrier/containment, reflective heat management
GSE LL	Linear low-density polyethylene geomembrane	Barrier/containment
BENTOLINER (EC, NS, NW)	Geosynthetic clay liner	Barrier/containment
FABRINET (BP, TP, STX, DTX)	Geosynthetic net and composite drainage system	Drainage, filtration, separation
GEOTUBE Dewatering containers	Geotextile tubes	Dewatering

Applications

Coal Ash Closure	Waste Dewatering
Sludge Ponds	Tailings & Impoundments
Floating Covers	Solution Ponds

DEWATERING SYSTEMS

Globally, **GEOTUBE** is one of the most trusted and effective dewatering technologies available. This technology provides an efficient means to reduce sludge volume making removal and disposal easier and more cost effective.

In addition to offering a low-cost solution, versatile **GEOTUBE** containers are customizable to meet a range of sizes, volumes, and space requirements.

Product	Description	Functions
GSE Dewatering containers	Geotextile tube	Dewatering

Applications	
Environmental Remediation	Water and Wastewater Treatment
Environmental Dredging	Agriculture
Mining and Mineral Processing	Aquaculture
Energy – Fly Ash and Bottom Ash	Pulp and Paper

GEOTUBE solutions combine dewatering and containment into one cost-effective step. Offering an efficient alternative to mechanical processing, **GEOTUBE** technologies enhance tailing pond capacity by reducing volume by up to 90%. Dewatered solids can be safely stored on site or transported to an approved location.

COMPREHENSIVE DESIGN TOOLS

InfraSolve

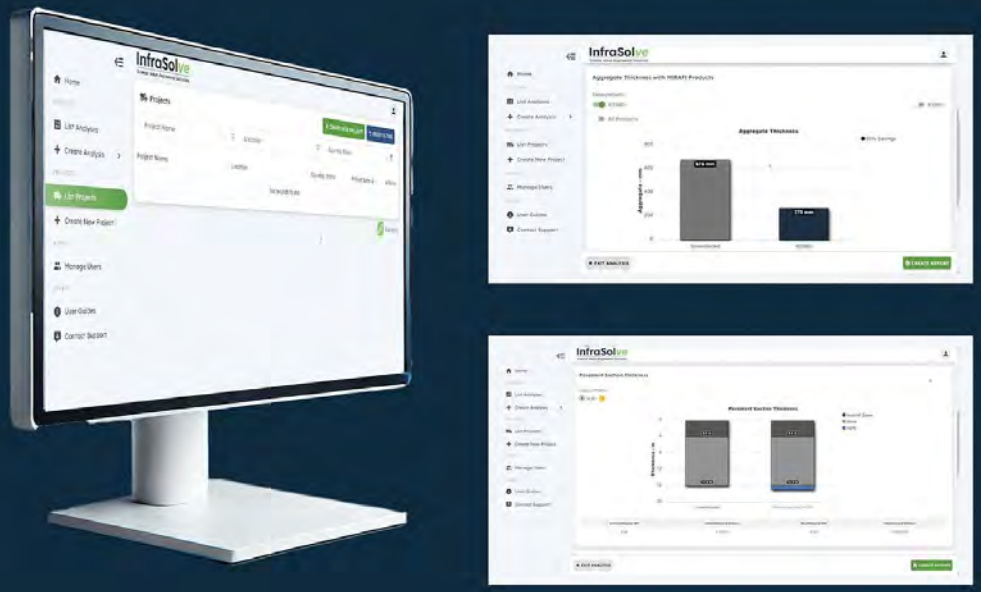
Solmax Value Engineered Solutions

Cost-effective, performance-based geosynthetic solution

InfraSolve®, a powerful web-based application developed specifically for engineers in civil, environmental, and geotechnical fields.

This comprehensive tool integrates proven design methods with sustainable best practices to design more resilient roadways, channels and slopes. InfraSolve incorporates proven design methodologies including AASHTO Pavement design, Giroud-Han unpaved design method, HEC-15 analysis and RUSLE analysis.

With a focus on practicality, users can calculate, compare, and assess project costs quickly and efficiently, helping to optimize designs and performance while keeping expenses in check. Plus, there is no need to download or install software to use this program.



Want to explore Solmax Solutions online? Visit our virtual showroom at VirtualSolmax.com.

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.

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