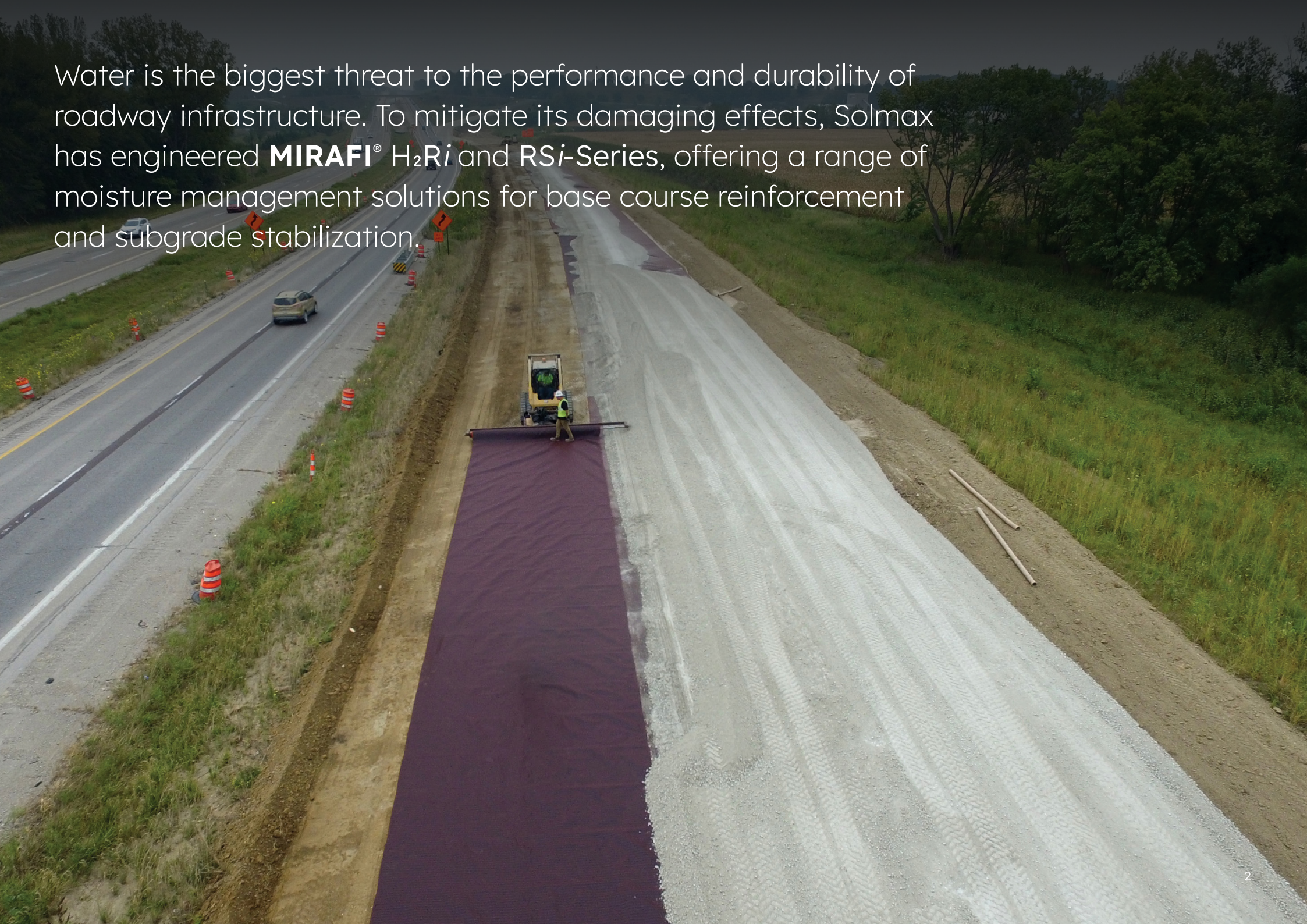
MIRAFI H_2R*i* and RS*i*-Series

Moisture management for resilient infrastructure

SOLMAX



Water is the biggest threat to the performance and durability of roadway infrastructure. To mitigate its damaging effects, Solmax has engineered **MIRAFI**® H_2R*i* and RS*i*-Series, offering a range of moisture management solutions for base course reinforcement and subgrade stabilization.

A RANGE OF MOISTURE MANAGEMENT

MIRAFI H₂R*i* aggressively manages moisture by **actively** drawing water out and pulling it away from the roadway. Additionally, **MIRAFI** H₂R*i* also provides base course enhancement.

MIRAFI RS380*i* and **MIRAFI** RS580*i* provide **passive** drainage to balance moisture within a cross-section and prevent capillary breaks.

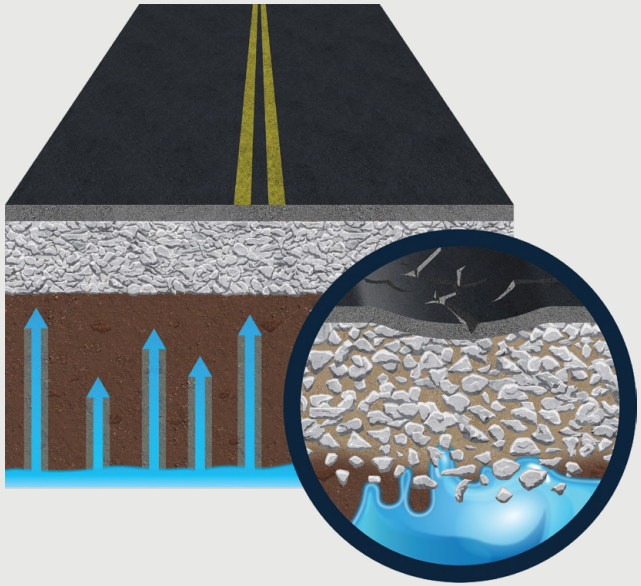
Geogrids provides no moisture management.

Roadway moisture management scale

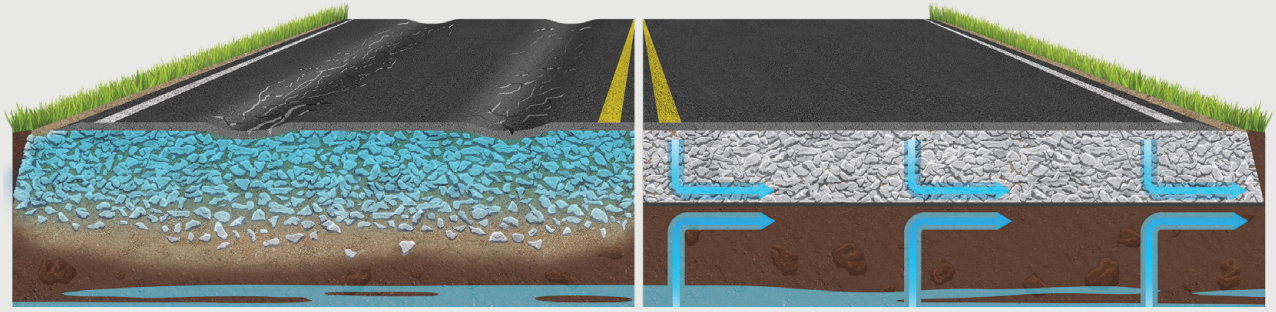
A range of geosynthetic solutions are used to stabilize roadways, but not all provide moisture management. This scale provides a quick guide to the level of moisture management yielded by several solutions.

Perched water below roadways will weaken the subgrade leading to damage including potholes and rutting. Using a geosynthetic with moisture management is an effective way to mitigate these issues in both paved and unpaved roadways.

WATER = DAMAGED ROADS



As capillary action causes groundwater to rise into the stress zone underneath the road, the strength of the road decreases, leading to damage over time.



Without moisture management

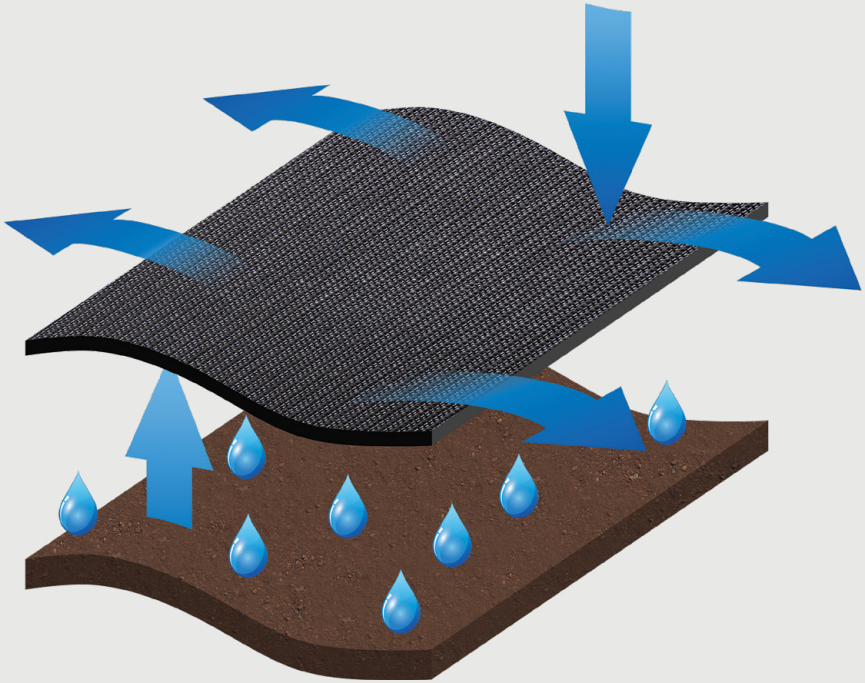
Accumulating moisture reduces the resilient modulus of the subgrade, causing hydraulic destabilization and mechanical failure of the roadway.

With moisture management

Uses capillary suction to move moisture away from the roadway, leading to a greater resilient modulus and stable conditions.

MIRAFI H_2Ri and **MIRAFI** RS*i*-Series are high-performance geosynthetics engineered to offer a single solution for roadway reinforcement and stabilization. This family of solutions offers high-modulus construction that integrates key performance properties including soil reinforcement, confinement, separation, and filtration.

WHY CHOOSE BLUE?



MIRAFI H_2Ri's unique blue material wicks water away from subsoil areas, improving road durability.

Wicking capability

Wicking yarn technology provides wicking action along the plane of the geosynthetic.

Reinforcement strength

Higher modulus and water flow than traditional stabilization alternatives.

Soil and base course Interaction

Provides excellent soil and base course confinement resulting in greater load distribution.

Frost heave mitigation

Mitigates pavement damage caused by differential frost heave and thaw weakening.

Durability

Durable design provides damage resistance for moderate to severe stress during installation.

Easy installation

Panels can be seamed in the factory or field, providing cross-roll direction strength to facilitate efficient installation.

Separation & filtration

Double layer construction provides varied pore sizes for excellent separation and superior filtration, interaction, and flow characteristics.

Expansive soil regulation

Controls variability in moisture content to reduce severity of shrink/swell and edge cracks.

MIRAFI H₂R*i* most aggressively manages moisture for applications with expansive clays, high water tables or frost heave challenges.

OPTIMIZE THE PERFORMANCE OF ACCESS ROADS AND WORKING PLATFORMS

Cost-effective design of an access road or working platform over soft subgrades and poor load-bearing soils is a common engineering challenge. Utilizing a geosynthetic engineered with moisture management is an effective way to increase long-term performance and manage costs.

MIRAFI H₂R*i* and **MIRAFI** RS*i*-Series offer a single solution for roadway reinforcement and stabilization providing moisture management, soil reinforcement, confinement, separation and filtration with one single product. Conversely, when a geogrid is used, a nonwoven geotextile separator is required. The use of only one product reduces the laydown area, installation time, and installation cost by half.

Replacing traditional materials with high-performance woven geotextiles like **MIRAFI** H_2R_i and **MIRAFI** RS*i*-Series in unpaved roadways can reduce CO_2 emissions by more than 70%.*

* Source: Koerner 2020

BENEFITS TO USING GEOSYNTHETICS FOR SUBGRADE STABILIZATION AND REINFORCEMENT VS. CHEMICAL STABILIZATION

MIRAFI H_2Ri & RS*i*-Series		Chemical stabilization
No specialized equipment needed.	**Ease of installation**	Specialized equipment and contractor needed.
No curing time – construction can continue immediately after installation.	**Construction time**	Standard cure time is 7 days.
Can be installed in all weather conditions, including wind and cold.	**Installation environment**	Cannot be installed in windy conditions due to the caustic nature of the materials. Materials are harmful to inhale and can cause damage to car paint.
Validated through multiple full-scale performance testing with third-party experts.	**Performance verification & third-party testing**	No design ESAL or structural number provided by chemical stabilization, which is required for an AASHTO 93 design.
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.	**Performance life**	Commonly exhibits poor strength retention when exposed to hydration, providing only a short-term solution.
Allows for the proper drainage of the pavement area to improve overall performance.	**Performance - drainage**	No drainage layer is included, making roadway susceptible to water damage.
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.	**Future maintenance**	Full-depth repair is needed when roadways fail and the chemical stabilization process will need to be repeated.

About us

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 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

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