

MIRAFI B-Series

BIDIM

MIRAFI Bidim S non-woven geotextiles
for separation and filtration in roads

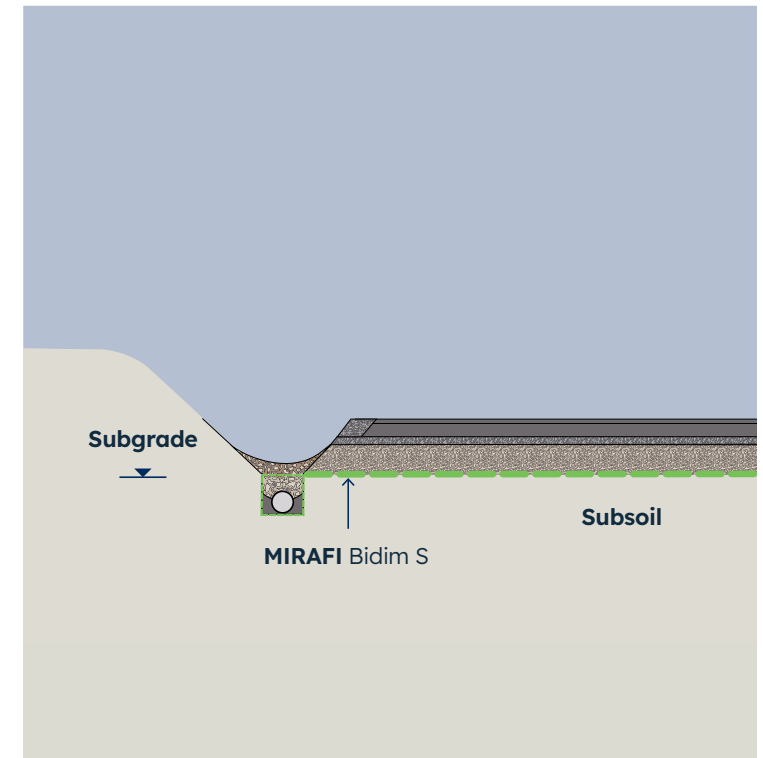
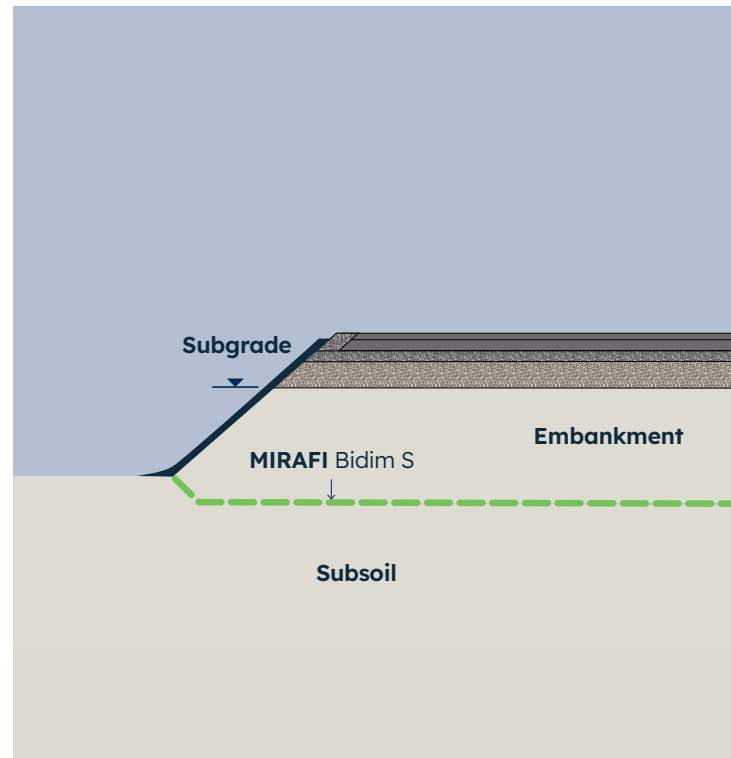


MIRAFI® Bidim® S geotextiles have been successfully used for over 50 years in the separation and filtration of trafficked areas on weak soils, and as filters in drainage applications.



MIRAFI Bidim S geotextiles are mechanically bonded non-woven fabrics with a mass per unit area between 90 g/m² and 400 g/m². The special manufacturing process using continuous-filament technology and with UV-stabilised polypropylene as the raw material offers the following advantages:

- High strength to resist installation damage and stabilize the road.
- Very good water permeability to enhance soil drainage and, at the same time, excellent retention of fine soil fractions.
- Very long service life, high chemical and biological resistance, especially in alkaline environments.
- No negative impact on either the environment or the groundwater.



Typical locations of **MIRAFI Bidim S** in road construction

FEATURES AND BENEFITS

Design and performance

The main functions of **MIRAFI Bidim S** in road construction are:

- Separation of fine-grained soil and coarse aggregate. By preventing intermixing, the load-distributing, the drainage and the frost-inhibiting properties of the sub-base are retained.
- Filtration of fine soils. The water in the soil must pass easily through the geotextile without fine particles being transported at the same time. This allows the subgrade to consolidate more rapidly, thus increasing its bearing capacity. Precipitation or rising groundwater levels do not cause damage.
- Reinforcement of the road substructure. Compaction of the aggregate is optimised by the increased resistance offered by the geotextile-covered subgrade.

Advantages

- Reduced aggregate requirement, since the layer separation prevents aggregate penetration into the subgrade.
- Rapid construction progress.
- Avoidance of “dirt tracks”.
- Increased service life of the road, reduced maintenance.

Environmental

In addition, there are important environmental advantages. The use of geotextiles leads to 75% lower environmental impact⁽¹⁾.

⁽¹⁾ Comparative life cycle assessments of geosynthetics versus conventional construction materials; EAGM



SOIL SEPARATION AND FILTRATION IN ROAD STRUCTURE

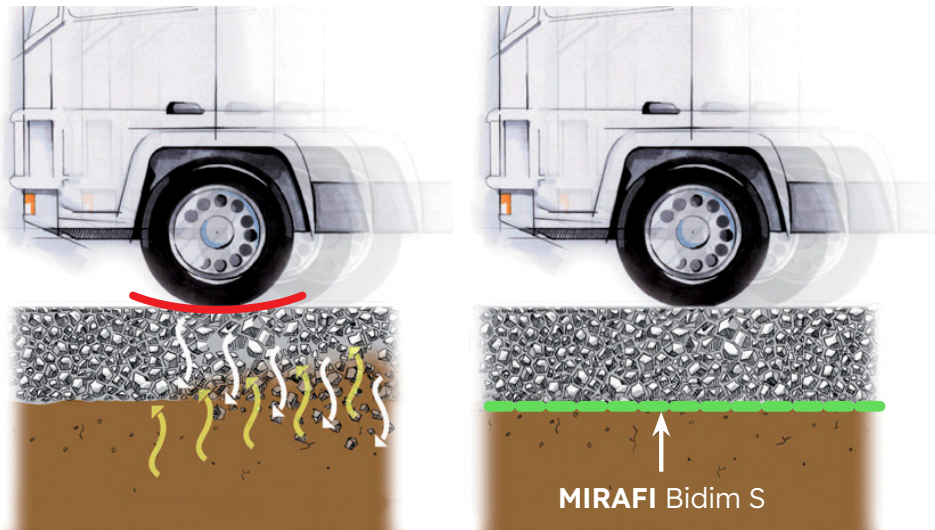
The most important parameters in the choice of the correct grade of **MIRAFI Bidim S** for are the properties of the subgrade, the traffic loading on base layer, the quality and the thickness of the aggregate (particle size).

The weaker the subgrade and the heavier the traffic, the higher the required tensile strength of the geotextile.

The larger the maximum particle size, the higher the required CBR and dynamic-perforation strength of the geotextile.

Besides the mechanical properties, the hydraulic properties are of high importance. There must be no increase in subgrade saturation due to low geotextile permeability.

The opening size must be selected so that, on the one hand, no clogging of the geotextile occurs, while on the other hand permanent fine-particle migration through the geotextile is effectively prevented. An opening size O_{90} in the range from 0.08 to 0.12 mm (ISO 12956) and a permeability $\geq 50 \text{ l/m}^2\text{s}$ (ISO 11058) have proven effective.



Effect of compaction and traffic on base layer thickness without and with **MIRAFI Bidim S**



MIRAFI Bidim S

Product recommendation

A computational determination of the required properties of separation and filter geotextiles is hardly possible due to the complexity. Therefore in some countries national guidelines have been developed which define minimum technical standards for geotextiles.

The recommendations for the **MIRAFI Bidim S** product range are based on these guidelines, but take also into account our more than five decades of experience with geotextiles in road construction.

The grade selection chart below gives just a rough guidance. For a detailed design suggestion, please contact Solmax.



MIRAFI Bidim S

Solmax MIRAFI Bidim S geotextile	S21	S31	S32	S41	S42	S51	S61	S72	S82
Garden path, terrace (no vehicle)									
Light vehicle access roads, low traffic									
Light vehicle parking, low traffic									
Heavy vehicle parking or heavy traffic									
Access to the construction site									
Road or rail platform									
Drainage trench									

This chart has been written to help you choose a geotextile. The nature of the soil, the material type and the thickness will increase the grade.

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

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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