



propex[®]
Geotextilien

a lot of the world's best
treasures have been buried
underground for years

PROPEX[®]
FABRICS

...propex[®] is no exception

who makes propex[®] geotextiles

propex[®] is manufactured by PROPEX[®] Fabrics, part of the PROPEX[®] Fabrics Inc. PROPEX[®] Fabrics is a leading and most successful manufacturer of polypropylene woven and nonwoven fabrics for geotextile applications in the world.

what

propex[®] is a family of polypropylene textiles, specially developed for a wide range of civil engineering applications, including ground works, road and railway constructions, soil drainage, soil reinforcement and erosion control. Since in the majority of these applications the textiles are used to improve or prevent the deterioration of the performance of soils, the name geotextiles is adopted.

where

propex[®] can be used on railway, roads and runway constructions, on ground works and haul roads, on river, canals and marine works and soil reinforcement and drainage.

when

When savings are to be made in temporary or permanent works. In temporary works such as haul roads the use of propex[®] can allow a reduction in thickness of hardcore, or for access over soft ground not normally accessible to vehicles. In permanent works such as drains propex[®] can be employed as filter to prevent clogging of expensive aggregate fill.

why

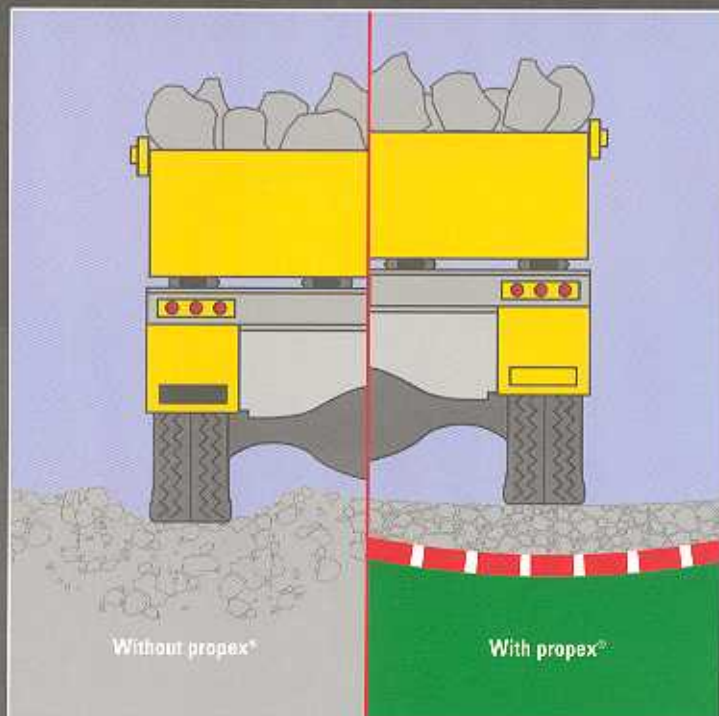
propex[®] offers the civil engineer a comprehensive product range backed by world-wide experience and continuing research. Designed with economy and performance in mind and manufactured in ultraviolet stabilised polypropylene to survive hostile environments, propex[®] offers a wide range of strengths and other properties so allowing selection to meet specifications whilst maximising savings.

roads

Unpaved haul roads and even high performance paved roads such as expressways and motorways can benefit from the use of propex[®] geotextiles. In haul roads propex[®] will minimise the thickness of hardcore or granular material required for a long and trouble free service life. How is this achieved? Look at the wheel track with no geotextiles, even with a substantial thickness of hardcore shallow rutting is initiated and gives rise to tensile stresses in the base of the hardcore. With repeated trafficking the effective hardcore thickness is reduced from being punched into the soil formation. The reduction in hardcore thickness leads to oversteering of the formation which ultimately fails in bearing, leaving deep ruts which make the haul road untrafficable.

With propex[®] installed between the hardcore and formation soil the hardcore thickness can be reduced thus showing substantial savings. With this reduced hardcore thickness shallow rutting again occurs, which as well as deforming the hardcore also deforms the propex[®]. With acceptable rut depth tension is transferred from the hardcore and formation soil into the propex[®].

This has the effect of confining and strengthening hardcore. In addition the vertical component of the tensile force in the propex[®] will support part of the wheel load so reducing stresses in the formation soil. This is propex[®] acting in the reinforcement mode. Because propex[®] also acts in the separator mode the effective thickness of the hardcore is maintained so further reducing stresses transmitted to the formation.

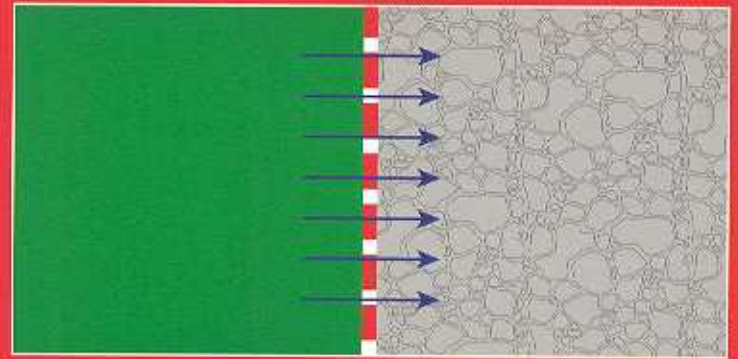


reinforcement



filtration & drainage

The woven structure of propex® geotextiles produces a series of openings which allow the transmission of water. Since the size and spacing of these openings are regular they can easily be related to the grading of the water bearing soil to prevent the sustained migration of fines into the aggregate of the drain. When the drain excavation is complete it is simply lined with propex® and back filled with permeable aggregate. In the initial stage water flows towards the drain and a few fines at the propex® aggregate interface are washed through the weave openings, however large particles then bridge those openings so generating a stable filter giving a long and trouble free service life.

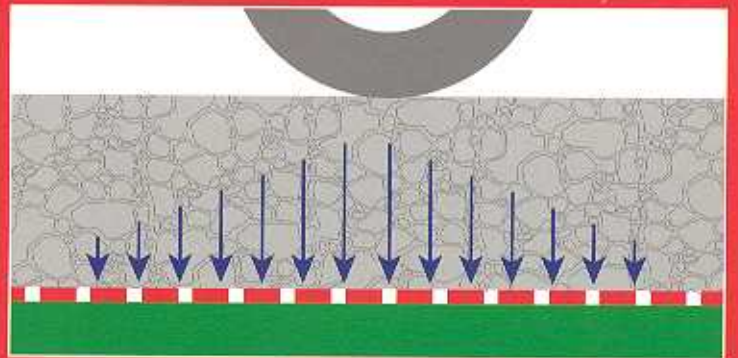


filtration

stabilization & separation

propex® separates the subsoil from the aggregate, providing critical stabilisation, even on soil weakened by retained moisture. This means a high performance surface with a longer life at a lower cost.

propex® stabilisation fabrics preserve aggregate on both paved and unpaved surfaces. These high modulus fabrics effectively separate the subsoil from the aggregate and provide tensile reinforcement to ensure high quality soil stabilisation.

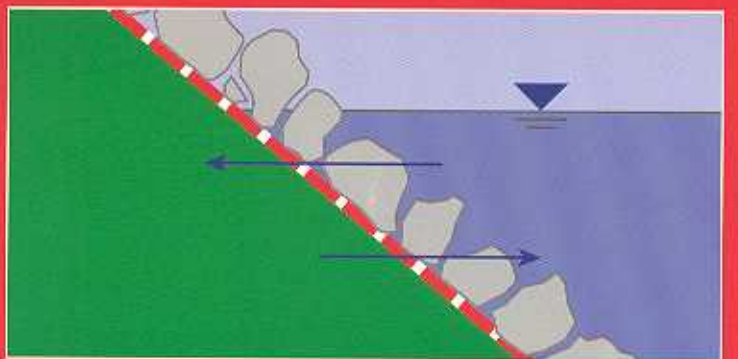


separation

erosion control

propex® acting as a filter

The effective control of destructive erosion in the banks of river, canal and coastal defences has always posed a difficult problem. This stems from the need for a robust outer protective layer to absorb the energy of wave or current, and the inner protective layer, traditionally in the form of aggregate filter to prevent erosion of the bank soil. This inner layer has a particularly difficult role to play since it must fill the often conflicting requirements of being fine enough to act as a bank soil filter, yet coarse enough to prevent the generation of high differential pressure between bank and external water levels:



erosion control

propex® as a two way filter

These problems are overcome with properly designed propex® installed to cover the exposed surface of the bank. To give protection against puncturing during construction or under heavy wave action, a layer of free-draining aggregate is used to bed the outer protective layer of rip-rap or armour stone. When the water level in the bank is high, there is outward flow tending to carry fines from the erodible bank soil. These are intercepted by the propex® which allows only the water to pass so preventing erosion.

Under heavy wave action water is forced into the bank. Here the propex® prevents any transmission of soil and reduces erosive jetting action.



technical service

Our Technical Service backed up by the experience of specialists from the world-wide PROPEX® Fabrics organisation are there to assist you in solving your construction problems using propex® geotextiles. The Technical Service Department works closely with the Research Department of PROPEX® Fabrics which is well equipped with the most up to date test equipment and facilities to help solve even the most demanding construction problems. However we cannot stress too strongly that customers must ensure that the fabric they select is suitable for the specific site condition.

product range

- Styles from propex® 6053 to propex® 6090
- Strengths from 10 to 140 kN/m
- Weights from 70 to 800 g/m²
- Fabrics with loops
- Composites Fleece / Fabrics
- Coated fabrics
- Spacer fabrics
- Specialties on request

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Handling and storage

The standard range of propex® is manufactured in roll widths of 3.5 m up to max. 5.25 m and roll lengths up to 200 m. Total roll weights range from 95 kg to 270 kg. Although the lighter weight rolls are easily manhandled, the heavier rolls may require mechanical handling which is easily achieved by using on site excavation equipment. Alternatively if the heavier rolls can be delivered close to the site area where they are to be used they can be rolled into final position manually. propex® is stabilised against UV light and its performance is unaffected by most chemical substances. Therefore no special storage facilities are required. Even so it is preferable to dry store propex®. However, storage in direct sunlight should be avoided over extended periods.

PROPEX® Fabrics is a member of the following organisations:

EAGM	Europe
AFPGA	France
IVG	Germany
NGO	Netherlands

Production standards

PROPEX® Fabrics GmbH produce according to the ISO 9001 and the CE standards.

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