



**Don & Low**  
MEMBER OF THRACE GROUP

# geosynthetics

*Lotrak® - designed for engineering groundwork solutions*

Separation

Filtration

Reinforcement

Erosion Control

Drainage

Hazard Identification

Silt Fence

Landfill Membranes





# Don & Low

Engineering tomorrow's technical textiles



## About Us

From our origins in 1792 as a linen and flax textile weaver, Don & Low has evolved into an internationally recognised innovative polyolefin textile manufacturer. Today, we are part of the multinational Thrace Group, expanding our profile across the globe. We focus on producing high performance, cost effective solutions to our clients' demands, which has led us to become one of the most versatile manufacturers serving global markets.

## Quality

Quality is a key focus at Don & Low. We never compromise on quality, from the raw materials we purchase, right through to the finished goods we produce. Continuous investment, quality management systems and experience have all contributed to us being awarded ISO 9001. Combined, this gives us confidence that our products meet the exact specifications required by our diverse range of customers.

## Environment

The need for truly sustainable options remains one of Don & Low's crucial challenges. We are committed to improving our impact on the environment through our proactive environmental policies, energy reduction measures and recycling programs.

## Innovation & Growth

Innovation, flexibility and a proactive approach to the ever evolving markets have contributed to our success. Don & Low has many long standing relationships with both customers and suppliers with whom we work closely to develop tomorrow's technical textiles. Enabling growth along with our customers, lies at the heart of our innovation philosophy.

[www.donlow.co.uk](http://www.donlow.co.uk)



*Continuous changes in infrastructure place a heavy demand on contractors to deliver safe, sustainable development while safeguarding the environment. Widely recognised as a design component in most building projects, geosynthetics play an essential role, not only in the construction phase, but throughout the entire service life.*

Under the brand name **Lotrak®**, Don & Low has been at the forefront of geosynthetic application and design since the mid 1970s. We have developed a comprehensive range of geosynthetics with excellent mechanical and hydraulic properties for a wide range of construction, landscaping and civil engineering applications.

Designed for performance, all **Lotrak®** geosynthetics offer the key functions of separation, filtration and reinforcement, limiting the movement of soil and aggregate and ensuring ground stabilisation.

Typically used in the groundwork for highways schemes, paved areas and coastal protection, specialised grades are also available for hazard identification, flooding protection and floating access roads for challenging sites such as wind farms.

With high resistance to installation damage and durability throughout their entire service life, **Lotrak®** geosynthetics can help to both reduce the construction costs and limit future expenditure for repairs.



# geosynthetics

## Functions

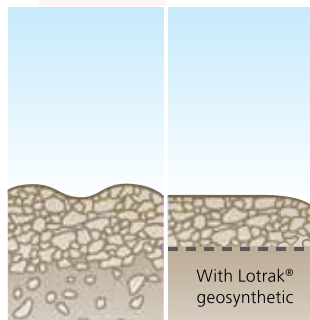
Geotextiles and geotextile-related products have to be tested according to their intended end use. There are five different functions that a geosynthetic may have to fulfil:

F	S	R	D	P
Filtration	Separation	Reinforcement	Drainage	Protection

The type of geosynthetic and the properties it requires will depend on the function it will perform in the end use. This may just be one function or a combination of the above functions.

## Separation

Lotrak® is used to separate the sub base from the sub grade and prevent intermixing of construction layers, while maintaining the construction thickness. Expensive aggregates are therefore kept apart from the soil. Lotrak® separation grades also have a water filtration characteristic, where the pore size of the geosynthetic is small enough to control the particle movement of the soil, but large enough to avoid clogging and maintain waterflow by creating a bridging zone to promote natural soil filtration.

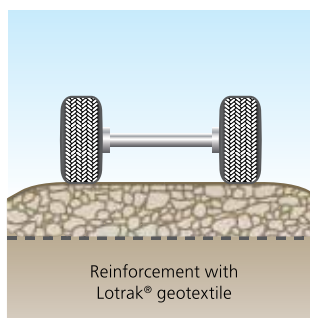


## Reinforcement

All Lotrak® reinforcing woven geotextile grades are designed to provide higher tensile stiffness for unpaved road applications, such as those found in sites for wind farm construction. Lotrak® reinforcing grades act as the reinforcement, separator and filtration membrane, providing all functions in one geotextile, eliminating the need for multiple products and offering clear cost benefits.

Designed to perform at low strain values (2% and 5%), when small movements take place within the construction, the Lotrak® woven reinforcing grades have a high modulus (high strength at low elongation) and improve the mechanical properties of the soil and other construction materials.

Where the functions of both reinforcement and high water-flow filtration are required, reinforcement by our Lotrak® biaxial grids used in combination with one of our nonwoven geosynthetics is the preferred choice.

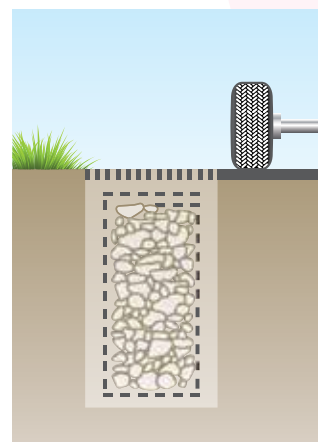
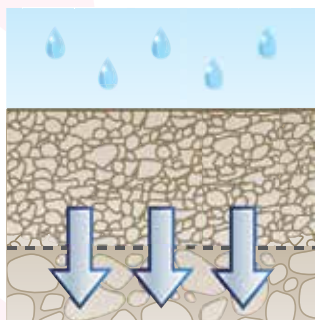




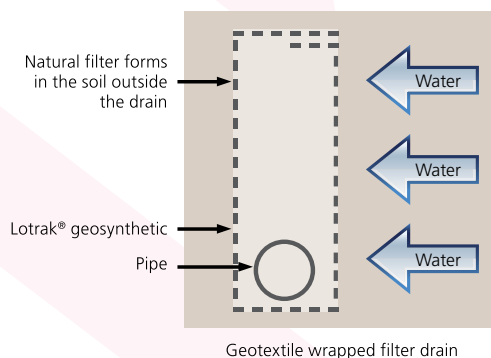
*Lotrak® 100 in use in a filter drain*

## Filtration and Drainage

Lotrak® filtration geosynthetics are designed to provide rapid filtration, allowing water to pass into a filter drain without the carriage of fine soil particles. These materials are commonly used in drains and trenches.



*Lotrak® 1800 as a separator*



## Protection

Geosynthetics are frequently used to protect impermeable geomembranes or sealing layers from damage from aggregate or fill materials. In particular, Lotrak® nonwoven grades provide puncture protection to the membrane.



*Use of Lotrak® biaxial grid in combination with Lotrak® 200*



# products

*There is a product in the Lotrak® range to suit most applications. However, it is important to ensure the correct product is selected as this can be critical to the success of the overall project. In some cases, the best solution can be the use of a combination of products.*

*Our technical team is available to help with the selection and specification of Lotrak® geosynthetics for all civil engineering projects.*

## Lotrak® Woven Geotextiles

Constructed from extruded polypropylene (PP) tapes, Lotrak® woven geotextiles have a proven record in a wide range of civil engineering applications. Offering a comprehensive range of solutions, Lotrak® geotextiles are ideal for use in the construction of access, temporary or permanent roads, car parks, drainage systems, and stabilisation of embankments. Lotrak® woven grades can act as the separator, reinforcement and filtration membrane, providing all functions in one geotextile, and eliminating the need for multiple products.

Separation and filtration in one product

High tensile strength with low elongation for reinforcement

## Lotrak® Nonwoven Geosynthetics

Don & Low also offer a range of nonwoven geosynthetics enabling us to address a wider variety of civil engineering applications. Drainage applications, for example, demand higher water filtration rates and Lotrak® nonwoven grades are the ideal solution. Lotrak® nonwoven geosynthetics are needlepunched, which provides more consistent waterflow performance than traditional thermally bonded alternatives.

Protection function to impermeable membranes and sealing layers

Excellent filtration characteristics





### Lotrak® Biaxial Grids

Lotrak® extruded biaxial geogrids provide ground stabilisation and reinforcement. Through the interlock mechanism, the geogrid is specifically designed to control movement of aggregate materials. The use of a geogrid results in a reduction in the quantity of required fill material, by increasing the bearing capacity of the underlying ground, offering performance and cost benefits to the project.

Effective reinforcement and soil confinement

High tensile strength with low elongation for reinforcement



### Lotrak® High Visibility Warning Barrier

Highly visible, Lotrak® Alarm18 has been specifically developed as a contaminated ground warning or marker barrier. With increasing demand for good building land, reclamation of industrial zones is becoming more common place and potential hazards are now often buried and contained underground as an alternative to removal. Good environmental construction practice utilises Lotrak® Alarm18 to notify future contractors and excavators of these hidden hazards, while performing a separation function.

Highly visual

UV resistant and durable



### Environmental Landfill Membranes

With growing emphasis on the environmental impact, it has become necessary to ensure that landfill sites are carefully designed, managed and maintained.

Usually the regulations for the site require a 'solution' - the use of more than one type of membrane - that must offer drainage, protection, reinforcement and capping functions.

Lotrak® geosynthetics and Lobrene® industrial fabrics are durable, high strength materials used alone or as a component of a composite to create a landfill solution.

This is a growing market in which our fabric is used to produce landfill liners.

Landfill membranes currently available are:

Daily capping material

Geosynthetic Clay Liner (GCL substrates)

Woven reinforcement textiles

Nonwoven protection textiles



# products

## Lotrak® Silt Fence

EU regulations demand land is kept in good agricultural and environmental condition and a breach can result in hefty fines, along with expensive clearing costs. Lotrak® Silt Fence is specifically designed as a temporary barrier to control the movement of soil during groundworks. A woven, porous, UV stable membrane, Lotrak® Silt Fence allows water to filter through, retaining and preventing sediment build-up in rivers, streams and drainage courses.

Lotrak® Silt Fence is easily installed with a specially designed vented area which allows simple attachment to posts and can also be further reinforced with fence wire along the top edge. Lotrak® Silt Fence is reusable, allowing for easy position adjustments during the lifetime of the project or for use as a temporary solution to soil erosion in wet seasons.

## Lotrak® Handypacks

Designed for small contracts and domestic projects, Lotrak® Handypacks deliver the same trusted Lotrak® products used by experienced civils contractors, in a user-friendly package. Clear, consumer-focussed labelling aids product selection and includes explanatory graphics to illustrate appropriate uses, as well as basic instructions to help the less experienced user install the product simply and effectively.

Benefits of Lotrak® Handypacks are:

- Woven and Nonwoven Lotrak® geosynthetics to suit a variety of applications
- Easy to transport and handle on site
- Manufactured to the same high standards as full sized rolls
- Reduced wastage
- Recyclable packaging
- Stocked in a large number of outlets



*Protection of watercourse using Lotrak® Silt Fence*





# certification

*The use of geotextiles and geotextile-related products in Europe is governed by a series of standards developed by the Technical Committee CEN/TC 289 "Geosynthetics". These standards define the characteristics relevant to the intended use of the geotextile or geotextile-related product.*

## Standards for Geotextiles and Geotextile-related products

EN 13249	Roads and other Trafficked areas
EN 13250	Railways
EN 13251	Earthworks, Foundations and Retaining Structures
EN 13252	Drainage Systems
EN 13253	Erosion Control and Bank Revetments
EN 13254	Reservoirs and Dams
EN 13255	Canals
EN 13256	Tunnels and Underground Structures
EN 13257	Solid Waste Disposal
EN 13265	Liquid Waste Containment



*Manufacturers are able to define the performance of their materials on the basis of declared values. Designers and specifiers can use these values to identify the characteristics required of that material to perform the required function of separation, reinforcement, filtration, drainage and protection, in the intended application.*

Geosynthetic Characteristic	Test Standard
Tensile Strength	EN ISO 10319
Elongation	EN ISO 10319
Dynamic Perforation Resistance	EN ISO 13433
Resistance to Static Puncture (CBR)	EN ISO 12236
Opening Size	EN ISO 12956
Water Permeability	EN ISO 11058



## CE Marking

The 'Construction Product Regulations 2011' (CPR), require all construction products, including geotextile and geotextile-related products, to be CE marked within the UK and across Europe.



Don & Low has been CE marking geosynthetic products, in line with the standard, since 2002, giving customers the confidence that all our product fully comply.

At Don & Low, production of each geosynthetic is monitored from raw material to finished product, with quality assessments carried out at every stage. Our test data has been continually monitored since 2002 and is used extensively to ensure all properties of the product meet the declared values.

All geosynthetics are printed with the product name for identification and supplied with an accompanying technical properties document. A Declaration of Performance is available on request.

## Geosynthetic and Geogrid Products

Lotrak® Grade	Type	Typical End Use
Base	Woven	Basic separation / filtration
Advance	Woven	Basic separation / filtration
15	Woven	Basic separation / filtration
1800	Woven	Basic separation / filtration
2300	Woven	Higher strength separation / filtration
2800	Woven	Higher strength separation / filtration
25R	Woven	Basic reinforcement
50R	Woven	Reinforcement on soft ground
70R	Woven	Reinforcement on very soft ground
HF550	Woven	High waterflow application
Alarm18	Woven	Hazard identification
80	Nonwoven	Basic separation / filtration
100	Nonwoven	Basic separation / filtration
200	Nonwoven	Higher strength separation / filtration
300	Nonwoven	Higher strength separation / filtration
20/20S	Biaxial Grid	20kN reinforcement grid
30/30S	Biaxial Grid	30kN reinforcement grid
40/40S	Biaxial Grid	40kN reinforcement grid

Other specialised grades are also available, including Lotrak® Silt Fence.



# commitment

***By offering a comprehensive range of woven and nonwoven geosynthetics and biaxial geogrids, Don & Low have a Lotrak® product to suit a diverse range of applications. This offers specifiers and contractors choice and flexibility to design a solution to meet both the technical and commercial requirements of every contract.***

We know the importance of product selection and ensuring the correct choice is made for each engineering project. Often the best solution is use of a combination of products, and our team is always available to help with the selection and specification of Lotrak® products.

At the same time, our extensive network of distribution partners ensures Don & Low's Lotrak® geosynthetics are delivered to your site quickly and effectively.

With a high commitment to quality, we work closely with our suppliers and customers and continue to expand our product range, offering new solutions to an ever-developing market.





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 Printed on paper produced with 55% recycled fibre and 45% FSC certified virgin fibre from well managed forests.