



GEOTEXTILE MEMBRANES

PART OF ECOGRID LTD



WE
COVER
THE EARTH

WHAT ARE GEOTEXTILE MEMBRANES?

Primarily, there are two main types of geotextile: **permeable** and **impermeable**. Permeable, or porous, geotextile fabrics will allow water to pass through and drain into the ground naturally. Impermeable geomembrane is designed to prevent water passing through.

Permeable membranes can be split into two categories again: woven and non-woven (or fibre). These are more commonly used in the landscaping and construction industries than impermeable. Woven geotextile is ideal for stabilisation and reinforcement within the ground, whilst non-woven provides unparalleled separation and filtration properties. Both types of fabric are highly versatile and can be used in unison for highly effective results.

Impermeable geomembranes, as logic would dictate, are used in applications where water needs to be blocked from travelling through certain areas, or contained in a specific location. This can range from damp-proofing of walls to storm water attenuation tanks.





NON-WOVEN FABRIC

Probably the most popular form of permeable geotextile membrane, generally thanks to the high performance to cost ratio it offers. As aforementioned, non-woven is best suited for separation and filtration, but there are very few applications where it cannot be utilised. EcoGrid Ltd offer a wide range of strengths and thicknesses available from stock, meaning your solution is always on hand.

Non-Woven geotextile membranes are used to provide porous separation between different layers in the ground, such as surface to sub-base or sub-base to sub-grade. They also, typically, offer great filtration properties to allow water to drain naturally into the ground, as opposed to pouring into drains and gutters which can potentially overflow and impact flooding. Thicker non-woven fabrics are used as protection for impermeable geomembranes in attenuation tanks or damp-proofing areas.

Also referred to as fibre membranes, non-woven geotextiles are manufactured by orientated filaments, either randomly or directionally. This is usually done via a thermal bonding process. More heavy duty grades are also needle punched to provide greater strength and resilience.



WOVEN GEOTEXTILE

The other half of permeable geotextile membranes, woven products are designed to offer reliable ground stabilisation and weed prevention capabilities. Longevity is key for products providing ground reinforcement in either domestic or commercial applications, which is achieved by EcoGrid Ltd. All products offered are CE certified and rigorously tested.

Woven geotextile membranes boast high tensile strengths compared to non-woven, meaning their mechanical strength is considerably more impressive. This makes them ideal for road construction and plant applications, where resilience and durability are of utmost importance.

Often described as having a “crosshatch” type style, woven membranes are manufactured by the interlacing of two or more sets of yarn, fibre, filaments or similar.

THE
CORE
RANGE



EG80 NON-WOVEN



The most recent addition to EcoGrid Ltd's range of geotextile fabrics, EG80 is a lightweight non-woven membrane suitable for a wide variety of applications. This product has been approved by EcoGrid Ltd for use with their world leading porous paving system. It can be used in domestic patios and driveways or heavily trafficked areas thanks to the highly effective grid and geotextile combination.

Pictured left is BREEAM HQ, where EcoGrid and EG80 Membrane were used in conjunction to provide an effective, sustainable ground reinforcement solution.

EG80 provides a separation layer between grid and sub-base, whilst boosting stabilisation and weed prevention.

TECHNICAL

TENSILE STRENGTH (MD)	6kN/M
TENSILE STRENGTH (CMD)	6kN/M
TENSILE ELONGATION (MD)	40%
TENSILE ELONGATION (CMD)	40%
CBR PUNCTURE RESISTANCE	1000N
CONE DROP	40MM
CHARACTERISTIC OPENING SIZE	155µM
PERMEABILITY	130x10 ⁻³ M/S
WATERFLOW NORMAL TO THE PLANE	120L/M ² /S
WATERFLOW IN THE PLANE 20kPA	1x10 ⁻⁷ M ² /S
THICKNESS UNDER 2kPA	0.8MM
WEIGHT	80G/M ²
ROLL LENGTH	100M
ROLL WIDTH	4.5M

APPLICATIONS

PRIVATE DRIVEWAYS
WALKING AND CYCLE PATHS
PATIOS
FRENCH DRAINS
RESIN BOUND STONE
ARTIFICIAL TURF

SUITABLE FOR HEAVIER DUTY USES SUCH AS CAR PARKS WHEN USED WITH THE ECOGRID POROUS PAVING GROUND REINFORCEMENT SYSTEM.

EG80 IS THE PREFERRED GEOTEXTILE OF ECOGRID LTD FOR GENERAL LANDSCAPING PROJECTS.

■ ALL ECOGRID LTD GEOTEXTILE MEMBRANES MEET CE CERTIFICATION AND BS EN ISO STANDARDS

JOIN OUR NETWORK AND BECOME A STOCKIST, RESELLER OR INSTALLER TODAY! UTILISE A MONTHLY CREDIT ACCOUNT BY HAVING PRODUCT SENT STRAIGHT TO SITE OR INTO YOUR OWN STOCK.



NW8 NON-WOVEN



The renowned NW8 geotextile fabric forms the backbone of our non-woven range. Its incredible versatility allow it to be utilised in a vast range of operations, ensuring effective separation and filtration for the area.

From private driveways to separate sub-base and sub-grade; to keeping sand and stone apart in entry level riding arenas; to lining and reinforcing trenches; to protecting penetrable impermeable geomembranes in waterproofing applications; there are many uses detailed below for which the NW8 is ideal.

The competitive nature of the geotextile market in the UK is as strong as ever, with many new products being manufactured and marketed in an attempt to reach the top of the food chain. The 105gsm NW8 has enjoyed great success for many years, due mostly to its scale of use alongside competitive cost.

TECHNICAL

TENSILE STRENGTH (MD)	8.5kN/M
TENSILE STRENGTH (CMD)	8.5kN/M
TENSILE ELONGATION (MD)	40%
TENSILE ELONGATION (CMD)	45%
CBR PUNCTURE RESISTANCE	1500N
CONE DROP	32MM
CHARACTERISTIC OPENING SIZE	125µM
PERMEABILITY	110x10 ⁻³ M/S
WATERFLOW NORMAL TO THE PLANE	110L/M ² /S
WATERFLOW IN THE PLANE 20kPA	5x10 ⁻⁶ M ² /S
THICKNESS UNDER 2kPA	1.05MM
WEIGHT	105G/M ²
ROLL LENGTH	100M
ROLL WIDTH	4.5, 2.25 OR 1.125M

APPLICATIONS

PRIVATE DRIVEWAYS
IMPERMEABLE PROTECTION LAYER
ROAD CONSTRUCTION
FRENCH DRAINS
ENTRY LEVEL RIDING ARENAS
SOAKAWAYS

ECOGRID LTD OFFER A UNIQUE CUTTING SERVICE TO ALL CLIENTS SO THAT NO MATERIAL GOES TO WASTE AND END USERS RECEIVE EXACT REQUIREMENTS.

NW8 IS AN EQUIVALENT PRODUCT TO MULTITRACK 1000, GEOTEC 1000 AND IS SUPERIOR TO TERRAM 1000.

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G90 WOVEN



The mainstay of EcoGrid Ltd's woven geotextiles, G90 is a durable product designed to provide stabilisation and reinforcement over long periods of time. Whether in a patio or commercial car park, G90 offers a resilient layer within the build-up.

As the majority of woven fabrics are black, they are highly efficient at suppressing weed growth, meaning G90 is a worthwhile addition to planting beds and gardens.

It also offers resistance to erosion and can aid with some separation, overall making it a very adaptable membrane.

Furthermore, G90 can be used alongside the drainage layer of equestrian riding arenas, offering high stabilisation properties under the aggregate. Please note that woven geotextiles should never be used in the top layer of riding arenas.

TECHNICAL

TENSILE STRENGTH (MD)	16kN/M
TENSILE STRENGTH (CMD)	13kN/M
TENSILE ELONGATION (MD)	17%
TENSILE ELONGATION (CMD)	14%
CBR PUNCTURE RESISTANCE	1800N
CONE DROP	18MM
CHARACTERISTIC OPENING SIZE	300µM
WATERFLOW NORMAL TO THE PLANE	15L/M ² /S
THICKNESS UNDER 2kPA	0.47MM
WEIGHT	80G/M ²
ROLL LENGTH	100M
ROLL WIDTH	4.5 2.25 OR 1.125M

APPLICATIONS

DRIVEWAYS & PATIOS
WEED PREVENTION
ROAD CONSTRUCTION
CAR PARKS
ENTRY LEVEL RIDING ARENAS
EROSION CONTROL

ECOGRID LTD OFFER A UNIQUE CUTTING SERVICE TO ALL CLIENTS SO THAT NO MATERIAL GOES TO WASTE AND END USERS RECEIVE EXACT REQUIREMENTS.

G90 IS AN EQUIVALENT PRODUCT TO FASTRACK SG 609, RHYNO GEOTEXTILE AND TERRAM 1000.

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THE
HEAVY
RANGE

NON-WOVEN HEAVY DUTY



EcoGrid Ltd offer a great variation of non-woven fabrics. This is to ensure differing project specifications can be met with ease, since the thickness and weight required of a geotextile membrane is typically determined by the top surface loading, the strength of impact on the material and the surrounding build-up.

These geotextiles are split into two main categories: NW (Non-Woven) and SNW (Superior Non-Woven). NW fabrics are thermally bonded yarns and filaments, forming a flexible product that is ideal for all kinds of applications. SNW products are needle-punched geotextiles, offering optimum performance per unit weight, which results in high quality mechanical robustness and permeability.

The next few pages display specifications for our most commonly recommend heavy duty (HD), non-woven fabrics. The types of scenarios these materials are often utilised in can be found below.

EcoGrid Ltd offer a bespoke manufacturing service to ensure site requirements are satisfied. Swift production times are offered to ensure project deadlines are abided by. Both roll widths and lengths can be determined by the client. Minimum order quantities may apply for these services.

APPLICATIONS

CAR PARKS

ROAD CONSTRUCTION

RIDING ARENAS

HORSE PADDOCKS

EROSION CONTROL

IMPERMEABLE GEO PROTECTION

COMMERCIAL SOAKAWAYS

ATTENUATION TANKS

SPORTS PITCHES / FIELDS

INDUSTRIAL PROJECTS

SPECIALIST WEED PREVENTION

ROOT PROTECTION

- STOCK OR SPECIALLY MADE, ECOGRID LTD CAN MEET ANY SPECIFICATION REQUIRED VIA THEIR THOROUGH DESIGN & MANUFACTURE PROCESS
- ALL ECOGRID LTD GEOTEXTILE MEMBRANES MEET CE CERTIFICATION AND BS EN ISO STANDARDS

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NON-WOVEN HEAVY DUTY



NW13 SPECIFICATION

TENSILE STRENGTH (MD)	13kN/M
TENSILE STRENGTH (CMD)	13kN/M
TENSILE ELONGATION (MD)	45%
TENSILE ELONGATION (CMD)	55%
CBR PUNCTURE RESISTANCE	2200N
CONE DROP	21.5MM
CHARACTERISTIC OPENING SIZE	100µM

WATERFLOW NORMAL TO THE PLANE	100L/M ² /S
WATERFLOW IN THE PLANE 20kPA	3x10⁻⁷M²/S
THICKNESS UNDER 2kPA	1.4MM
WEIGHT	160G/M²
ROLL LENGTH	100M
ROLL WIDTH	5.25M

NW16 SPECIFICATION

TENSILE STRENGTH (MD)	16kN/M
TENSILE STRENGTH (CMD)	16kN/M
TENSILE ELONGATION (MD)	45%
TENSILE ELONGATION (CMD)	50%
CBR PUNCTURE RESISTANCE	2400N
CONE DROP	19MM
CHARACTERISTIC OPENING SIZE	85µM

WATERFLOW NORMAL TO THE PLANE	85L/M ² /S
WATERFLOW IN THE PLANE 20kPA	1x10⁻⁶M²/S
THICKNESS UNDER 2kPA	1.55MM
WEIGHT	200G/M²
ROLL LENGTH	100M
ROLL WIDTH	5.25M

NW20 SPECIFICATION

TENSILE STRENGTH (MD)	20kN/M
TENSILE STRENGTH (CMD)	20kN/M
TENSILE ELONGATION (MD)	50%
TENSILE ELONGATION (CMD)	55%
CBR PUNCTURE RESISTANCE	3100N
CONE DROP	16MM
CHARACTERISTIC OPENING SIZE	70µM

WATERFLOW NORMAL TO THE PLANE	65L/M ² /S
WATERFLOW IN THE PLANE 20kPA	3.5x10⁻⁶M²/S
THICKNESS UNDER 2kPA	1.7MM
WEIGHT	235G/M²
ROLL LENGTH	100M
ROLL WIDTH	5.25M

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SUPERIOR HEAVY DUTY

SNW40 SPECIFICATION

TENSILE STRENGTH (MD)	22kN/M	WATERFLOW NORMAL TO THE PLANE	60L/M ² /s
TENSILE STRENGTH (CMD)	22kN/M	WATERFLOW IN THE PLANE 20kPA	3x10⁻⁶M²/s
TENSILE ELONGATION (MD)	50%	THICKNESS UNDER 2kPA	2.4MM
TENSILE ELONGATION (CMD)	55%	WEIGHT	300G/M²
CBR PUNCTURE RESISTANCE	4000N	ROLL LENGTH	100M
CONE DROP	12MM	ROLL WIDTH	5.25 OR 2.62M
CHARACTERISTIC OPENING SIZE	90µM		

SNW80 SPECIFICATION

TENSILE STRENGTH (MD)	46kN/M	WATERFLOW NORMAL TO THE PLANE	40L/M ² /s
TENSILE STRENGTH (CMD)	46kN/M	WATERFLOW IN THE PLANE 20kPA	8.5x10⁻⁶M²/s
TENSILE ELONGATION (MD)	65%	THICKNESS UNDER 2kPA	4.4MM
TENSILE ELONGATION (CMD)	65%	WEIGHT	650G/M²
CBR PUNCTURE RESISTANCE	8000N	ROLL LENGTH	50M
CONE DROP	4MM	ROLL WIDTH	5.25M
CHARACTERISTIC OPENING SIZE	70µM		

These five products are EcoGrid Ltd's most commonly specified heavy duty non-woven fabrics; with a range of 80-520gsm for the standard, thermally bonded non-woven; accompanied by a range of 120-1200gsm for the superior, needle-punched geotextiles.

If unsure as to which grade your project requires, or need a bespoke membrane, do not worry! EcoGrid Ltd have the expertise and product availability to assist with specification, sale and supply.



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WOVEN HEAVY DUTY



Woven geotextile membranes are primarily used to aid with ground stabilisation, reinforcement and weed prevention. Their high resistance to puncturing ensures a reliable separation layer in the ground, reducing movement and strengthening the surrounding build-up. Naturally, this robustness increases the higher the grade of geotextile. Thanks to this, and their impressive tensile strength, EcoGrid Ltd's heavy duty woven membranes are not required to be as thick as others on the market.

40/40 SPECIFICATION

TENSILE STRENGTH (MD)	40kN/M
TENSILE STRENGTH (CMD)	40kN/M
TENSILE ELONGATION (MD)	18%
TENSILE ELONGATION (CMD)	7%
CBR PUNCTURE RESISTANCE	4500N
CONE DROP	11MM
CHARACTERISTIC OPENING SIZE	164 μ M

APPLICATIONS

GROUND REINFORCEMENT
ROAD CONSTRUCTION
CAR PARKS
RIDING ARENA BASE LAYERS
EROSION CONTROL
COASTAL PROTECTION
EMBANKMENT REINFORCING
INDUSTRIAL PROJECTS
HARD STANDING AREAS

WATERFLOW NORMAL TO THE PLANE	16L/M ² /S
THICKNESS UNDER 2kPA	0.7MM
WEIGHT	174G/M ²
ROLL LENGTH	100M
ROLL WIDTH	5.25M

80/80 SPECIFICATION

TENSILE STRENGTH (MD)	82kN/M
TENSILE STRENGTH (CMD)	86kN/M
TENSILE ELONGATION (MD)	14%
TENSILE ELONGATION (CMD)	8%
CBR PUNCTURE RESISTANCE	9500N
CONE DROP	9MM
CHARACTERISTIC OPENING SIZE	300 μ M

WATERFLOW NORMAL TO THE PLANE	18L/M ² /S
THICKNESS UNDER 2kPA	1.35MM
WEIGHT	300G/M ²
ROLL LENGTH	100M
ROLL WIDTH	5.25M

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THE
SPECIALIST
RANGE

ECOFLEX UDG



EcoFlex UDG (Urban Drainage Geomembrane) is a non-permeable, or impervious, membrane designed to prevent water from flowing through the sub-grade, helping to maintain the ground structure. Instead, it directs the flow of water or contains it within a specific area. To do this, all joints must be welded or taped, thereby ensuring the entire installation remains waterproof.

EcoGrid Ltd's EcoFlex Geomembrane often requires a non-woven fabric to act as a protection layer, just like the vast majority of impermeable membranes. This is to prevent puncturing or damage which may result in leaks.

EcoFlex is manufactured from high performance polymers in the UK, where every major development is examined for risk of flooding. EcoFlex, and other SuDS (Sustainable Drainage Systems), have a great impact on this by attempting to manage all drainage at the source and direct it into appropriate watercourses. Thanks to the CfSH (Code for Sustainable Homes), using EcoGrid Ltd's EcoFlex improves developers' sustainable rating, when used in conjunction with an underground stormwater system.

TECHNICAL

TENSILE STRENGTH	20/21N/MM ²
ELONGATION AT BREAK	790/880%
RESISTANCE TO IMPACT	250MM
NAIL TEAR	340/350N
THICKNESS	500MU
PUNCTURE RESISTANCE	135N
WEIGHT	460G/M ²
ROLL LENGTH	12.5M
ROLL WIDTH	4M

APPLICATIONS

ATTENUATION TANKS
POND LINING
RESERVOIRS
LANDFILL SITES
DAMP PROOFING
MINING OPERATIONS
ANIMAL FARMS
POWER PLANTS
AGRICULTURE
AQUACULTURE

- **ECOFLEX UDG CAN BE SUPPLIED FABRICATED OR CAN BE TAPED. TO UNDERTAKE THIS ON SITE, SPECIALIST UDG TAPE IS REQUIRED**
- **ALL ECOGRID LTD GEOTEXTILE MEMBRANES MEET CE CERTIFICATION AND BS EN ISO STANDARDS**

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BLACK NON-WOVEN



The vast majority of non-woven geotextiles in the UK are white or grey, making it distinctive from the black woven alternative. However, in some scenarios, white membrane does not provide a practical solution. This can be due to a variety of reasons, such as white standing out too much compared to dark surrounding colours, or black being more effective for suppressing weeds as it blocks out light more effectively. Combining the two ensures no sacrifices in performance.

High grade black non-woven fabrics, such as 300 or 650gsm, have been tested and utilised alongside polymer products to aid with pollution prevention. To achieve this, polymer captures and solidifies hydrocarbons between the layers of specialist geotextile membrane, which provide durability for an even spread of the organic hydrogen and carbon compounds.

EcoGrid Ltd have the facilities to produce any geotextile membrane to meet requirements. This can include specific weights, colours and roll sizes. One example that has become a regular order would be 250gsm black 2m x 100m, generally used as a heavy duty underlay to protect the vital pond liner and ensure it continues to hold water within. This product is made especially for EcoGrid's resellers who take the product into stock and distribute themselves.

Thanks to hi-tech engineering, EcoGrid Ltd can manufacture to almost any roll width required.

Geotextiles produced on request can be needle-punched or thermally bonded as per the client requirements. EcoGrid Ltd can also assist with the design and specification of said membrane to ensure suitability and effectiveness for the project.

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RECYCLED FABRIC



Recycled geotextile membrane can be made to meet virtually any specification. To the right is an example of our most common; a 300gsm non-woven.

These geotextile fabrics are primarily manufactured from multi-coloured fibres, containing polypropylene and miscellaneous synthetics.

Being produced from these recycled fibres doesn't affect this membrane's strength and durability; only its appearance. EcoGrid Ltd's recycled fabrics offer a cost-effective, environmentally friendly solution for large projects, whether residential, commercial or industrial.

This specialist geotextile can be used for liner protection, stabilisation and separation projects, whilst allowing water to permeate through.

In manufacturing these geotextile fabrics per specification, clients can determine the roll widths and lengths to suit their requirements.

E.G. TECHNICAL

MAXIMUM LOAD MD	7kN
MAXIMUM LOAD CD	12kN
EXTENSION AT BREAK MD	142%
EXTENSION AT BREAK CD	109%
THICKNESS	3.9MM
WEIGHT	300G/M ²
CBR PUNCTURE RESISTANCE	1540N
DISPLACEMENT	83MM

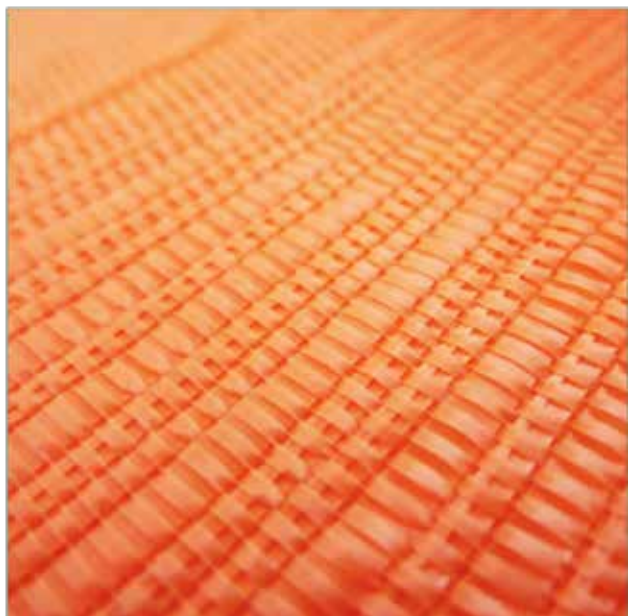


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ORANGE HI-VIS



EcoGrid Ltd's "alarm" membrane, the Orange Hi-Vis is a woven geotextile fabric designed especially for use in areas of contaminated ground. As well as the general reinforcement woven membranes provide, Hi-Vis offers a separation layer to aid against contaminated soil particles migrating upwards and spreading. Furthermore, its bright orange colour acts as a warning layer to any future contractors potentially excavating the area; signalling that the ground underneath is polluted and could be dangerous. Hi-Vis is stored and delivered to site/stock in polyethylene wrapping to protect the geotextile from ultraviolet radiation. EcoGrid Ltd strongly recommend leaving the product wrapped until installation, whereupon it should only be exposed for a maximum of 14 days.

EcoGrid Ltd also offer high-visibility geotextiles in other colours, produced on request. Non-woven geotextile membranes are also available for situations where filtration and/or separation is a primary concern over stabilisation. These are available either thermally bonded or needle-punched to match the variety of heavy duty grades found within EcoGrid's regular range of geotextiles. This ensures all types of project are catered for, no matter the type of pollution present.

TECHNICAL

TENSILE STRENGTH (MD)	12kN/M
TENSILE STRENGTH (CMD)	12kN/M
TENSILE ELONGATION (MD)	22%
TENSILE ELONGATION (CMD)	18%
CBR PUNCTURE RESISTANCE	1800N
CONE DROP	14MM
PORE SIZE 90% FINER THAN	200µM
PERMEABILITY	18x10 ⁻³ M/S
ROLL LENGTH	100M
ROLL WIDTH	4.5M

APPLICATIONS

CONTAMINATED GROUND
WARNING LAYERS
CIVIL ENGINEERING
POTENTIAL HAZARDS
RECLAIMED LAND

PLEASE BE AWARE THAT CERTAIN
TYPES OF CONTAMINATION CAN
REQUIRE SPECIFIC MEMBRANES.

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INBITEX / SP



Inbitex is a renowned, vibrant green geotextile membrane. EcoGrid Ltd stock and offer this product along with a direct equivalent, EcoGrid's SP Membrane. Both of these products are designed for the same function and boast almost identical properties.

TECHNICAL

TENSILE STRENGTH (MD)	8.5kN/M
TENSILE ELONGATION (MD)	28%
CBR PUNCTURE RESISTANCE	1575N
TRAPEZOIDAL TEAR RESISTANCE	325N
PORE SIZE	0.145MM
AIR PERMEABILITY	2875L/M²/S
WATER FLOW	80x10⁻³M/S
WATER BREAKTHROUGH HEAD	50MM
WEIGHT	130G/M²
ROLL LENGTH	100M
ROLL WIDTH	4.5M

Inbitex has been specifically developed to optimise the cleansing of water entering the underground system. Various characteristics have been combined to create a unique geotextile that aids the development of naturally occurring microbes and offers them refuge during periods of drought. These microbes then digest hydrocarbons within the sub-base. Research undertaken at Coventry University has shown that a system using Inbitex/SP is capable of degrading at least 70g of oil/sqm/annum.

Inbitex and SP are both highly unique products, manufactured from both polypropylene and polyethylene fabrics. During this process, small

dishes are created on the surface of the hairs from which the geotextile is manufactured. This is very important in the early establishment of a biomass responsible for eating and degrading oils in water. It's also important during dry periods when the microbial population can retreat into the dishes to find moisture, thus when it rains again, biomass is quickly re-established.

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SECURAGRID



Securagrid is a biaxial geogrid made from bar structures which are welded at rigid junctions to provide strong reinforcing properties.

EcoGrid Ltd offer three main types of Securagrid for various types of application: 20/20, 30/30 and 40/40. This refers to the tensile strength of the product, ranging from pedestrian areas to airport runways.

It's most common for Securagrid to be used alongside a non-woven geotextile fabric to ensure it's protected and therefore functions as desired. Again, the grade of fabric needed, and weight of geogrid, would be determined by the intended application. If unsure of which products are most suitable, please contact EcoGrid Ltd.

Granular particles become compacted in the Securagrid, partially penetrating the apertures. This locks and creates a load dispersal effect, increasing the shearing resistance within the soil, in turn improving compactive and reducing the need for a thick sub- base. As a result, both installation time and costs are drastically reduced, making for a less labour intensive process.

Securagrid is an alternative to Tensar TX160, CellWeb and similar products.

APPLICATIONS

GROUND REINFORCEMENT
TREE ROOT PROTECTION
CAR PARKS
MOTORWAYS / ROADS
RAILWAYS
AIRPORT RUNWAYS
BUILDING FOUNDATIONS

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COMBIGRID 2IN1



Double the product, half the work! CombiGrid is the result of welding non-woven geotextile fabric between geogrid reinforcing bars, culminating in a state of the art product. This essentially combines all the qualities of fleece geotextile membrane with Securagrid, offering high performance in; separation, filtration, reinforcement and stabilisation. Both contractors and end users can reduce installation times by 50% since only one product has to be rolled out and secured, as opposed to two or three.

CombiGrid is an ideal solution for areas of low strength sub-soil (approximately under 3% CBR). This is because the sub-base thickness is significantly reduced due to the reduction in layers, eliminating any need to replace weak soil, therefore benefitting labour, resources, time and expenses.

APPLICATIONS

- ROAD CONSTRUCTION
- AREAS OF WEAK SUB-SOIL
- SUB-BASE REINFORCEMENT
- FOUNDATIONS
- ACCESS ROADS
- PIPELINE TRENCHES
- ROOT PROTECTION

CombiGrid can be installed in virtually all weather conditions without heavy equipment or specialist techniques. Panels are simply joined together and continuity is assured via simple overlapping. If necessary, basic cutting tools can be used for on-site trimming or to form geometrical shapes where steep slopes are apparent.

CombiGrid boasts excellent resistance to chemicals, UV and weather.

■ **ALL ECOGRID LTD GEOTEXTILE MEMBRANES MEET CE CERTIFICATION AND BS EN ISO STANDARDS**

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ECOCELL 100



EcoCell is a honeycomb, permeable platform primarily designed for tree root protection and safeguarding of heavily vegetated areas, although it can also be used in trafficked environments. For best results it's recommend for infill with clean, angular gravel. EcoGrid Ltd's EcoCell is available in 100 and 200mm depths, supplied in 31sqm sections. The HDPE system is simply stretched out and pinned in place with galvanised steel J-pins and accompanied by a non-woven geotextile membrane such as NW8 or EG80.

The cellular walls reduce the amount of vertical pressure against the tree roots, keeping them safe from harm. Further root disruption is avoided since EcoCell requires very little excavation, with only the surface vegetation requiring removal. Reducing the need for digging and sub-base thickness can save users up to 50% on infill materials.

EcoGrid Ltd advocate using EG80 or NW80 fleece fabrics in conjunction with EcoCell to offer reliable separation between soil and aggregate. Using a geotextile is also beneficial in case of any spillages, such as oil, since the spill become trapped by the membrane and degrade aerobically within the pavement construction. It is proven that highly permeable pavements have a low concentration of pollutants, adding to their eco-friendly nature.

a pplications

tree root protection
areas of vegetation
shoreline control
ground reinforcement
foundations
pavements / driveways
earth retention

- all ecogrid ltd geotextile membranes meet CE Certification and BS EN ISO standards

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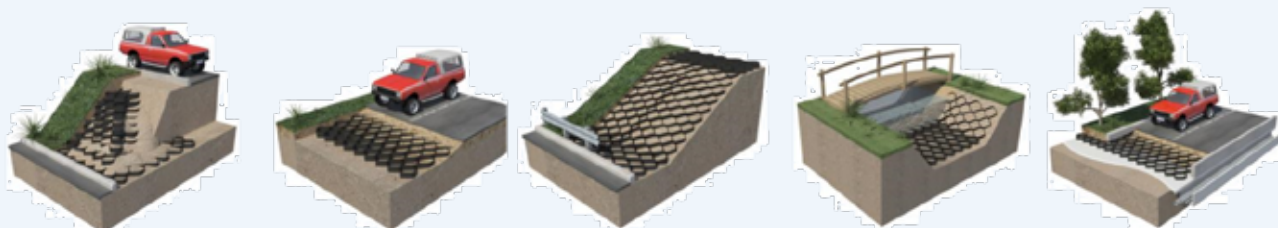
ECOCELL 100

EcoGrid WebCell - Technical Specification

EcoGrid WebCell confines and stabilises the surface of weak soils by creating a honeycomb of interconnected polymer strips that form pockets to locate and strengthen the infill material. WebCell can be laid over stable steep slopes where the cell walls provide a tensile force increasing the strength of the material and acting as mini weirs to reduce run off velocity and soil loss. On a slope WebCell is normally secured to the underlying material by frequent pinning, usually with steel pins. Where this is inadvisable or impossible, for instance when installed over a geomembrane, the panels should be secured to a high strength looped geotextile (TW Looped). Using this inexpensive system it is also possible to reduce foundation stone thickness under loaded areas by up to 50%. Earth retaining walls can be formed with horizontal layers of WebCell filled and placed one on another.

Applications include, retaining walls, basal reinforcement, slope stability, tree root protection.

WebCell is a honeycomb structure of polymer strips securely bonded at the joints by ultrasonic welding. It is folded flat for transport and expanded on site. The honeycomb walls of WebCell are solid; the walls of WebCell have a system of perforations which optimises the balance between mechanical and hydraulic performance.



SPECIFICATIONS	EcoGrid WEBCELL 75/240	EcoGrid WEBCELL 100/300P	EcoGrid WEBCELL 100/240P	EcoGrid WEBCELL 150/300P	EcoGrid WEBCELL 200/300S	EcoGrid WEBCELL 200/300P
Colour	Black	Black	Black	Black	Black	Black
Material (1)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)
Cell height, mm	75	100	100	150	200	200
Cell diameter, mm	240	300	240	300	300	300
Material thickness	1.2mm	1.2mm	1.2mm	1.2mm	1.2mm	1.2mm
Panel size, m, fully expanded	5 x 3.9m	5 x 3.9m	5 x 3.9m	5 x 3.9m	5 x 3.9m	5 x 3.9m
Weld space	420mm	500mm	420mm	500mm	500mm	500mm
Junction tensile strength (2) kN.m,	1200N	1200N	1200N	1200N	1200N	1200N
Material tensile strength	22kN/m	22kN/m	22kN/m	22kN/m	22kN/m	22kN/m
Panel Weight	21kg	24kg	24kg	36kg	48kg	48kg

P = Perforated panels / S = Solid Panels

The standard configuration of WebCell panels is a panel 6.0m x 4.0m (nominal) when expanded. The standard WebCell panel is specified by the depth and effective cell diameter. WebCell has excellent chemical resistance to a wide range of chemicals normally found in the ground. We will be pleased to advise on specific substances.

NOTES:

- 1) The values given are indicative and correspond to nominal results obtained in our laboratories and testing institutes.
- 2) In line with our policy of continuous improvement we reserve the right to make changes without notice.
- 3) Allowable tolerances are + 10% of the typical value.
- 4) The tensile strength of the web panel is inversely proportional to the cell diameter.
- 5) Please refer to separate sheet for fixing instructions.



THE
EQUINE
RANGE

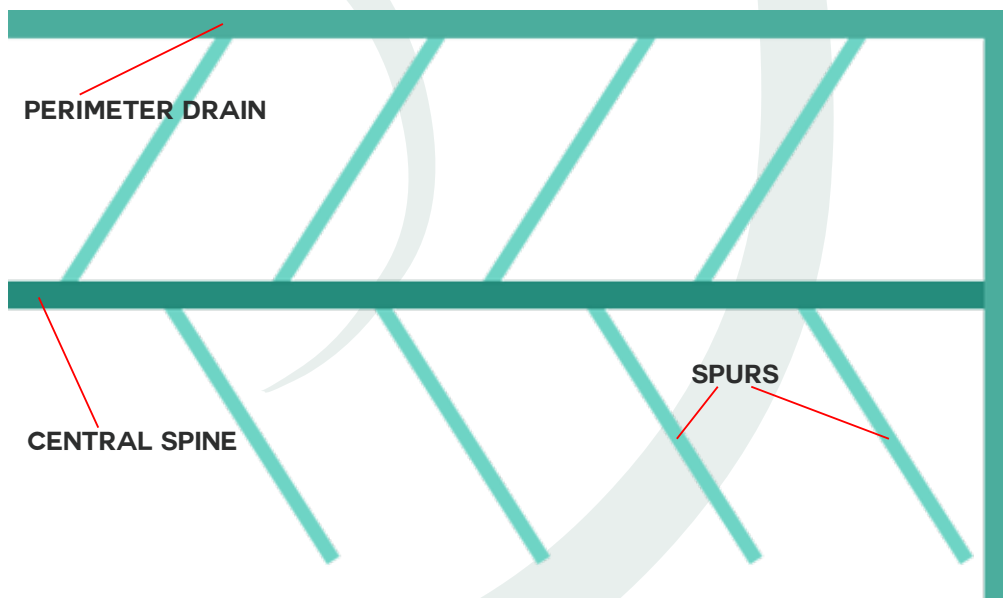
BASE LAYER

In almost all equestrian arenas that EcoGrid Ltd have supplied over several years, G90 has been the specified base layer geotextile. High tensile strength coupled with a large pore opening size make woven fabrics ideal for this application. Since this layer is below the aggregate/stone, and therefore never comes into direct contact or any general stress from horse riding, there is no requirement for a heavy duty woven geotextile.

One of the key aspects of a flawless riding arena is the drainage, often affected by the porosity of the ground. The base of the drainage is usually formed by perforated land drain or linear drains. These guide the flow and ensure water is dispersed via the correct channels. Perhaps the most common of layouts for this is the herringbone pattern as shown below.

Note: the drainage channels/tubes can be wrapped in a non-woven geotextile so that clay and silt don't cause blocking.

HERRINGBONE PATTERN



When incorporating the herringbone, it is recommended to use 100-150mm collection pipe as the central spine, along with 75-100mm perforated drain to create spurs at 45° degree angles, ideally five metres apart. Please note different pipe types may be required for varying arena sizes.

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TOP LAYER

EcoGrid Ltd take several factors into consideration when specifying a non-woven geotextile fabric for top layer installation, above the aggregate of an equestrian riding arena. These include:



- frequency of use
- length of use per session
- use intensity
- type of activities

It is absolutely vital to use a suitable product for each job to avoid damages and steep increases in cost should the geotextile layers have to be inspected and, likely, replaced.

EcoGrid Ltd offer three main kinds of manege packages depending on the quality required and the budget that is available.

Entry Level is for privately used arenas where horses and riders alike enjoy a leisurely time with nothing too labourousome taking place. This includes NW8 100gsm.

Prestige packages vary in weight, typically incorporating NW16 200gsm, SNW40 300gsm or SNW80 650gsm, depending on the exact usage. EcoGrid Ltd advise these for a range of arenas, from highly intense domestic to light and heavy grade commercial, or even regular competitions.

Premium packages revolve around the world leader of porous paving, EcoGrid. This removes the need for a woven geotextile base layer, as EcoGrid offers unparalleled drainage and reinforcement qualities. EcoGrid can also be used for horse walkers, paddocks, wash-down areas and similar.

Take note that the horses should never come into direct contact with the geotextile membrane.

The equine industry offers many different methods for joining arena geotextiles together, such as glue, heat guns or stitching. However, through extensive market research, EcoGrid Ltd find that these solutions are only applicable with very specific products (e.g. different geotextiles require different types of heat gun), or they simply aren't cost effective. That is why a tape and overlap approach is generally preferred. Typical overlaps are 0.33-0.5m.

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JOINING TAPES



Double-Sided Butyl Tape is generally designed for use with impermeable geomembranes for waterproofing and damp-proofing applications. However, it can also be used with standard porous geotextiles such as EcoGrid Ltd's NW8 and G90 membranes.

It's available in 50mm x 20m and 100mm x 15m rolls.

EcoGrid Ltd's Single-Sided Cloth Tape is a cost effective and highly popular method of joining overlaps; whether it's a simple garden installation or a complete equestrian riding arena.

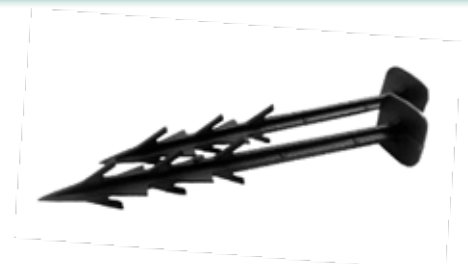
It's available in 100mm x 50m rolls.

Take note that certain geotextile fabrics and geomembranes require their own specialist fixing methods. Please contact EcoGrid Ltd if you would like further advice.



GROUND FIXINGS

EcoGrid Ltd's 150mm barbed plastic pegs have been tested against competitor's products and were proven to have greater holding power in ground, even compared to pegs up to 50% longer. The barbed design improves grip and durability.



300mm long x 5mm thick, EcoGrid Ltd's J-Pins are robust and reliable. They can be used with porous paving, geogrids or heavy duty geotextile membranes; ideal for slopes, embankments, or areas with steep gradients.



Both the plastic pegs and galvanised steel pins are sold in packs of 100. EcoGrid Ltd also offering fixing methods such as U-Pins; get in touch for details.

If unsure on the type of fixing product required for the project, or whether one is needed at all, don't hesitate to contact.

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GET IN TOUCH

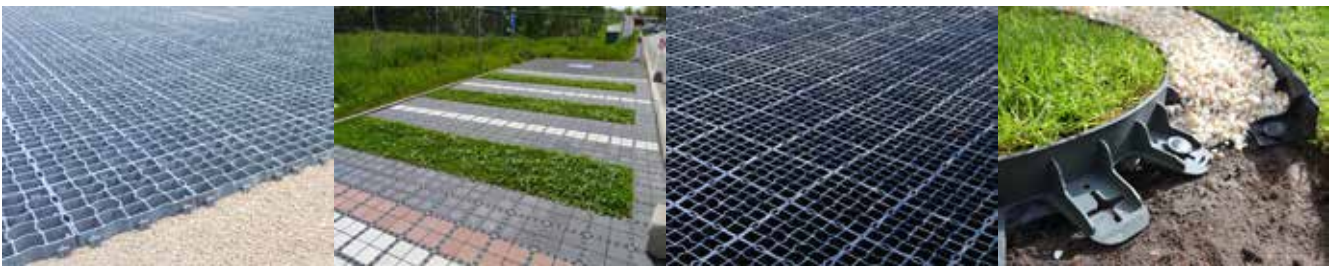
EcoGrid Ltd hold UK and Ireland distribution rights for the world leading, ground reinforcement grid system, EcoGrid. The company also has sister sites, focusing on geotextile membranes and recessed manhole covers, as seen below. These three sectors of EcoGrid Ltd put the company in a strong position to cater to the needs of contractors, merchants and end users across the industry.

Details of these ranges can be obtained via an extensive network of resellers and installers, or contact EcoGrid Ltd directly:

sales@ecogrid.co.uk | T: 0151 639 4281 | F: 0151 675 0030

Crystal House, Units 28-29 Wheatland Business Park, Wheatland Lane, Wallasey, CH44 7ER

ECOGRID.CO.UK



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