



# Product Range

Geosynthetics for use in a wide range of applications in civil engineering and building applications

**abg** | creative  
geosynthetic  
engineering

# About ABG

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ABG are a market leader in the development, manufacture and technical support of high performance geosynthetics with applications in many civil engineering, environmental and building projects.

ABG offers an extensive range of geocomposite drainage and gas venting layers, geotextiles, geomembranes, geogrids, retaining walls, erosion control products and asphalt reinforcement grids.

ABG specialises in providing environmental protection systems for MSW landfill lining and containment, surface and sub-surface water retention for sustainable drainage (SUDS), gas dispersal, cut-off trenches and capillary break layers for contaminated land remediation, soil retention and erosion control for slopes and waterways, low cost retaining walls and reinforced earth for access roads and structures, and systems for the extended life of rigid and flexible pavements. Finesse systems cover a wide range of applications including Landfill, Reclamation, Highways, Bridges, Tunnels, Basements and Buried Structures, Green Roofs, Coastal Defences, Rivers, Railways, Playing Fields and Landscaping.

When compared with traditional methods of engineering, projects involving earthworks or drainage can be performed with less environmental impact and at lower cost using sustainable geosynthetic solutions from ABG.

ABG is a privately owned company formed in 1988, with its own manufacturing facility at Meltham, in the heart of the Yorkshire Pennines.

ABG has developed an excellent reputation for innovation combined with quality products and outstanding customer service resulting in steady and continuing growth.

The ability for rapid product development ensures that ABG supply the most innovative and cost effective solution to most engineering problems involving water or soil retention.

Where required all products are CE marked and approved for use by leading UK and international authorities. Our reference list of completed schemes includes many prestigious projects including: largest landfill capping in UK, largest capping in Portugal, world's first tunnel invert drain using geocomposite, 30,000m<sup>2</sup> roof garden in Hong Kong, 20,000m<sup>2</sup> playing field drainage RAF Wattisham.

Research and development are given high priority. Collaborative research is undertaken with leading British Universities and knowledge hubs to develop improved design methods.

Laboratory facilities are used to undertake regular quality control testing, product development and to provide clients with specific design values. Many landfill projects have been completed involving ABG products meeting the rigorous quality control and testing requirements of the CQA plan.

Technical support is provided for all of our products by our well trained and experienced staff, many of whom are chartered Civil Engineers. This extends to design, design confirmation, feasibility study, cost advice and installation.

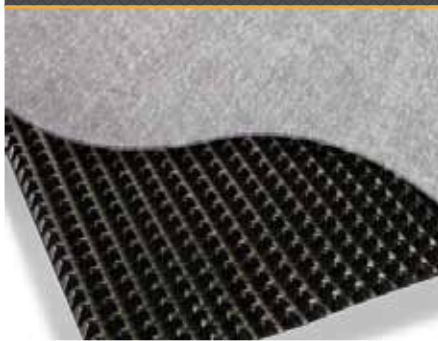
ABG also regularly provides a complete package solution from design to installation working in partnership with the design and construction team.

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## Landfill drainage & gas dispersal systems



**Pozidrain®** is a wide width drainage and gas venting layer that replaces filter stone and forms a robust drainage layer for collecting leachate and ground water in landfill containments. It also provides a gas venting system for the dispersal of methane and other gases from the perimeter of landfills and below the capping layer. **Pozidrain®** can also be used to form a highly effective capillary break layer in the restoration of contaminated land.

It comprises a HDPE cusped core bonded to a heat treated needle punched geotextile filter fabric. A geotextile is bonded to the core to prevent intrusion into and blockage of the drainage passages under the action of backfill material.

**Pozidrain® G** builds on the technology of Pozidrain and utilises a patented lattice core that offers many benefits over other systems using drainage strips. The unique core configuration allows the system to be used on steep capping applications.

**Pozidrain® Protector** has a heavy weight protection fleece included in the composition allowing it to be used in basal applications where it acts as a leachate collection layer whilst providing protection to the underlying lining system

**Leakdrain** is used for leakage detection within the landfill base lining. It is sandwiched between the primary and secondary lining system where it allows the detection of leaks whilst safely draining away leak fluids



## Geomembrane lining systems



ABG lining as designed to provide liquid and gas barriers in many sectors including waste disposal and landfill lining, capping, reservoirs, canals and ornamental ponds, environmental lining of roads and projects in contaminated land, waterproofing of structures.

ABG lining materials have high chemical stability, even at elevated temperatures, and are resistant to all common chemicals, including petrol, oils and leachate.

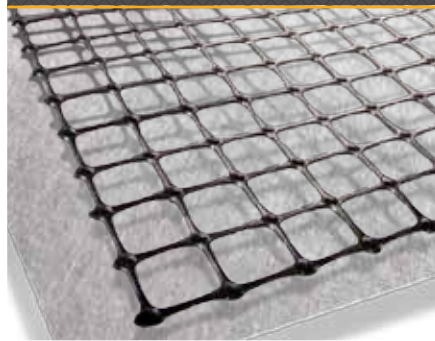
**Alphaline** geomembranes are manufactured from high quality virgin Polyethylene (PE) and Polypropylene (PP) in a quality controlled environment.

**Claymat** is a Geosynthetic Clay Liner (GCL) that utilises Sodium Bentonite, long recognised as an ideal impermeable barrier material. **Claymat** provides this in a convenient sandwich between two layers of geotextile. The result is a thin, flexible, clean, easily transported and installed lining system.

In many applications the performance of the **Alphaline** and **Claymat** lining is enhanced by the associated specification of **Pozidrain®** geocomposite drainage and protection layer.



## Reinforcement & separation



ABG offer a full range of both woven and non-woven geotextiles for many civil engineering, environmental and building projects.

**Terrex® SNW** is a range of thick needle punched non-woven geotextiles in the weight range 300-5000g/m<sup>2</sup>. They are primarily for the protection of geomembrane liners, filtration in coastal revetments and drainage trenches in very fine grained materials e.g. PFA.

**Terrex® NW** is a light weight range of geotextiles ideal for filtration or separation applications.

**Terrex®** geotextiles are used in the manufacture of Pozidrain® to create a very substantial protection and drainage layer with just one installation cost.

**Abtex** geotextiles are low-cost wovens for applications in access roads and landscaping.

**Gridtex** is a high performance woven geotextile engineered for reinforcement applications and is ideal for strengthening a wide range of soils. It is capable of fulfilling many of the functions required of a geogrid whilst at the same time offering all the benefits of a woven geotextile.

**Abgrid** offers a value geogrid for soil reinforcement and strengthened embankments.

**Trigridd®** is an innovative high performance geogrid combining fibre-reinforced polymer strips within a woven structure. Its junctions are high-strength welded which helps create an interlocking structure.



## Structural drainage systems



**Deckdrain** is a high-performance geocomposite drainage layer that directly replaces traditional granular drainage stone.

When used in structural drainage **Deckdrain** forms a robust drainage system designed to relieve external water pressure from buried structures such as behind retaining walls, on cut and cover tunnel construction, podium decks and roof gardens and buried tanks and service reservoirs.

It may be laid horizontally or vertically and provides high flow capacity whilst affording protection to waterproofing systems. Using **Deckdrain** reduces the amount of excavation required on site and enables site material to be used as backfill.

**Deckdrain** has also been developed further for use under block paving drainage. In this application its function is to collect and remove seepage water from the sand course below the block paving. Without **Deckdrain**, the sand can easily become saturated. In this condition the sand will liquefy under traffic loading resulting in settlement and rutting. **Deckdrain** offers a cost effective method of preventing this type of failure.

**Deckdrain** is BBA approved for use in highway drainage applications.

**Piledrain** is designed as an effective solution to the treatment of joints between contiguous and secant bored concrete piles in basement and retaining wall construction.



## Cavity drainage systems



**Cavidrain** is a cavity drainage system designed specifically to relieve water penetration from basements and buried structures. It is suitable for use in both new and existing structures conforming BS8102.

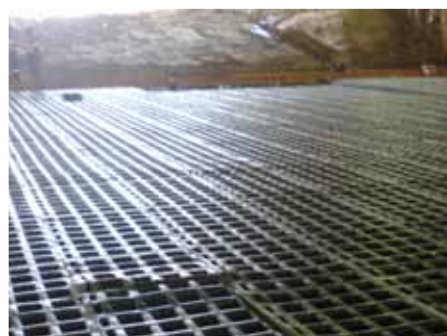
Traditional methods of ground water exclusion are difficult to install reliably in the modern deep basement with piled slabs and secant piled walls. **Cavidrain** provides a waterproofing system that enables fast track construction by eliminating wet trades and removing the installation of separate waterproofing from the critical path.

The low profile of **Cavidrain** maximises the available internal space. It is very easily and quickly installed, making Cavidrain® a very cost effective waterproofing system.

In tunnel drainage applications **Cavidrain** provides a drainage layer to collect infiltration water from behind tunnel linings. **Cavidrain** may be used alone or form part of a system incorporating geomembranes. Typically the **Cavidrain** is fixed to the excavated face of the tunnel and sprayed concrete is applied directly to the back of the **Cavidrain** sheet.

**Cavidrain** can also be used in the formation of tunnel invert drainage where its efficient flow channels can remove the requirement for an aggregate drainage layer. Once in position the **Cavidrain** is covered with concrete and, once cured, it's strength is equivalent to the concrete used.

**Cavidrain** is suitable for use in road and rail tunnels, mine shafts, interceptor sewers and service tunnels.



## Ground drainage systems



**Fildrain** drainage geocomposite is a cost effective alternative to traditional stone drainage. It collects and channels liquids and gases to a carrier pipe for transportation to a suitable discharge point. It has many applications in highway and embankment drainage.

**Fildrain** has a very high flow capacity, many times that of traditional crushed stone (specific data is available). This is due to the unique open structure created by the dimpled construction which allows unhindered water flow through out the sheet.

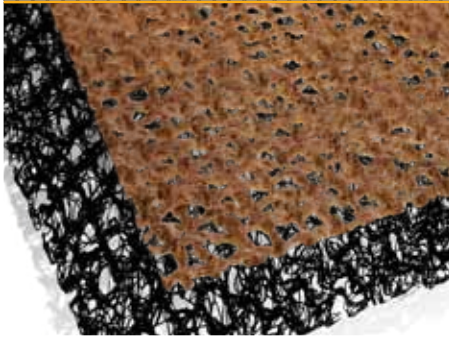
The **Fildrain** range of drainage products have many applications and are typically used for the drainage of highway edges, car parks, airfields and similar applications

**Fildrain** also has applications in the drainage of embankments and reinforced earth structures, cut-off trenches on contaminated land and landscape applications where a narrow trench is dug and the **Fildrain** placed within and backfilled using excavated materials.

**Fildrain** can also be used as the basis of a gas collection system beneath man made reservoirs and snow water ponds.



## Erosion control systems



ABG offer comprehensive range of environmentally friendly erosion control materials including biodegradable or non-biodegradable, seeded and unseeded. They are designed for providing surface protection and enhancing the structural stability of soil slopes.

**Erosamat® Type 1 & 1A** are low cost biodegradable erosion control mats made from woven jute. They are used as an economic and environmentally friendly erosion control material for surfaces that will support plant growth.

**Erosamat® Type 2** is a heavy duty long life coir biodegradable erosion mat. It is designed to prevent soil erosion and help establish new vegetation on areas of loose soil and in situations of high run-off and high water velocity.

**Erosamat® Type 3** is a closely packed matrix of polypropylene fibres thermally bonded together to create a tough and flexible, long lasting erosion control mat.

It is suitable for all situations where an element of non-biodegradable erosion control is required. As a system it provides the a structure that allows the root reinforcement necessary for natural vegetation to resist the extreme effects of wind, rain and water erosion.

**Erosaweb** is a honeycomb mattress of interconnecting strips that form pockets to hold and strengthen the infill material. Ideal for severe erosion problems on steep slopes.



## Asphalt reinforcement



**Rotaflex** is an asphalt reinforcing system comprising grids of glass fibre coated in PVC and laminated into a polyester geotextile.

On site experience since 1987 and extensive research by Major Road Laboratories in Europe have demonstrated the benefits of **Rotaflex** to help eliminate reflective cracking, reduce rutting and extend fatigue life of a pavement. The **Rotaflex** glass fibre grids, installed below the wearing course, provide maximum strength even at very low strains. The composite textile provides a stress absorbing layer and prevents water penetration.

Use of **Rotaflex** allows the overlay thickness to be reduced, enabling further savings to be made in kerbing and accommodation works. The increased life using **Rotaflex** can save one or more future overlays.

**Rotagrid** is a self adhesive pavement reinforcement system designed to prolong the life of pavement structures and allow the use of thinner overlays.

Manufactured from high strength glass fibres contained within a protective polymer coating. Glass has high tensile strength at low elongation (typically below 4%) which is essential as bituminous pavements can crack at elongations as low as 1%.

**Rotagrid** pavement reinforcement is a versatile system used in maintenance and new construction schemes to prevent problems such as reflective cracking, cracking at road widening joints, surface rutting and lean mix road base cracking.



## Vegetated retaining wall system



**Webwall®** is a flexible retaining wall system that utilises geocell technology. Using **Webwall®** green faced walls with near vertical faces can be built quickly and easily with the added benefit of using site won materials as fill saving the import of materials from off site.

Cost savings over traditional retaining wall constructions along with a green vegetated finish can be achieved by using **Webwall®** system. It is ideal in situations with weak foundation soils and often allows site won materials to be used as fill thereby saving on the cost of removal and also the cost of importing structural fills.

The retaining wall structure is formed from horizontal layers of **Webwall®** filled and placed one on top of another. The front face of the structure can be filled with top soil and then vegetated through seeding or planting to create a vegetated finish.

It offers many cost advantages over other retaining wall systems including lower labour costs, cheaper materials and reduced maintenance.



## Porous paving systems



**Sudspave®** is a system of interlocking cellular paving units designed for the stabilisation of trafficked grass or gravel surfaces. Applications include car parks, emergency and maintenance vehicle access roads, cycle paths and pedestrian areas.

**Sudspave®** offers a cost-effective, robust and aesthetic solution for many applications where gravel retention or grass reinforcement is required and where source-control of surface water forms part of a Sustainable Drainage System (SuDS) design.

**Truckcell®** is a heavy-duty cellular paving system designed for intensive usage and high-load traffic applications. The cells can be filled with topsoil and seeded or with gravel to provide a robust structural surface capable of carrying HGV traffic. Manufactured from 100% recycled plastic it is strong enough to withstand trafficking from vehicles with high wheel loadings such as trucks, buses, fire appliances and refuse vehicles, making it suitable for applications such as HGV parking and access roads, fork-lift loading areas, car and coach parks and emergency vehicle access routes.

**Advanced Turf®** is a high-performance grass rootzone reinforcing system that allows the formation of natural grassed surfaces with the strength and durability to carry frequent vehicle traffic.



## Green & blue roof systems



**Roofdrain** is designed for use in extensive green roof systems. It provides both drainage and attenuation in a convenient, lightweight and cost effective system.

The drainage design of intensive green roofs requires only a simple soil layer; by contrast the modern method of an extensive green roof requires a combination of efficient drainage and water attenuation in order to allow the ecology to flourish.

**Roofdrain** allows the storage of water within the nodes of the HDPE core whilst facilitating the efficient drainage of any excess water away from the roof. This helps prevent the root growing media from drying out during dry periods and from becoming waterlogged during periods of wet.

When used within a roof construction **Roofdrain** provides a versatile system for the collection of surplus seepage water at the base of the growing medium and for the prevention of water pressure on the structural waterproofing

**Deckdrain** also has applications in roof construction, particularly in podium decks and the construction of ballasted roofs where it forms an highly efficient drainage layer that quickly conveys water to the roof outlets.

On blue roofs **Roofdrain** and **Deckdrain** are used to for a void capable of attenuating rainwater collected on the roof. Once within the system the discharge is controlled using bespoke restrictor outlets designed specifically for each project.



## Geocellular reinforcement systems



ABG manufacture a range of geocell mattresses suitable for many basal reinforcement applications.

**Abweb** is a three dimensional cellular matrix designed to strengthen weak soils in horizontal applications such as access roads, car parking areas and site compounds. It can be used as a standalone system or as part of a complete pavement system in conjunction with other products such as **Abgrid** and the **Sudspave®** or **Truckcell®**

**Abweb TRP** is used as part of no-dig solution for the construction of trafficked areas above protected tree roots.

Using **Abweb TRP** allows the construction of a surface capable of carrying vehicular traffick whilst still permitting the flow of water and nutrients into the root structure.

**Concertinaweb** is a geocellular containment system which confines and strengthens infill materials and provides a cost effective solution for the reinforcement of roadside verges. When installed **Concertinaweb** helps prevent verge failure and material loss in the event of vehicles overrunning. It can also be used to prevent stone scatter from verge drainage systems.





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