



TECHFAB INDIA

GEOSYNTHETIC APPLICATIONS IN PAVEMENTS

TECHFAB INDIA INDUSTRIES LIMITED, is an ISO 9001-2008 certified organization, keen in introducing the most efficient and cost-effective solutions for the all the engineering geosynthetic problems. Techfab manufacture World Class Geosynthetic products at its state of art manufacturing units in Silvassa and Daman (UT) India, which exceed expectation and provide exceptional service around the globe since 2003. Towards this we have established offices in most of the metro cities in India and are headquartered in Mumbai

TechFab India's product portfolio is useful in a multitude of applications like Slope Protection and stabilization, Reinforced soil wall, Railway track bed stabilization, Pavement strengthening, Coastal protection, Landfill, Landscaping, Ports, and most of the Environmental engineering problems.

In India, infrastructure developments are at their highest peak at present since the country's new government came in power, says Mr. Manish Barot, Head - Technical Sales & Business Development, TechFab India. . As such, major projects are underway for highways, coastal highways, railways, port development, coastal and river training works, and solid waste management he added.

"During such developments, so many problems are also associated with the infrastructure constructions such as alignment of roads and railways through problematic ground conditions, constructions of roads railways nearby coastal area for better connectivity with the ports where ground conditions are poor and also the scarcity of natural resources (stone, sands, gravel, etc.), and high ground water table & drainage issues," Barot says.

In his opinion, advanced applications need to be adopted by government authorities. "As a result, the last couple of years have seen various geosynthetic applications grow slowly, but will continue to grow day by day. The prominent manufacturing industries—like us—are putting in a lot of effort to

educate the client, consultants and contractors, giving them examples and showing case studies from developed countries like the U.S., U.K., and in Europe where these types of applications are widely used and still in practice. We believe that this will definitely give good results in the future for growth of the geosynthetic industry in India."

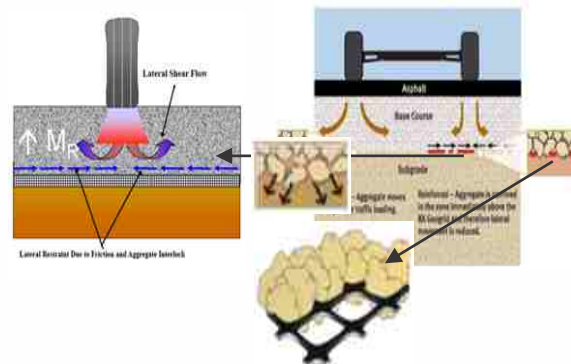
And Techfab India is geared up and ready to provide the best geosynthetic products to the industries to deal with different geotechnical solutions where conventional solutions has their limitations. In last couple of years, Techfab India has added additional manufacturing facilities for following products which are the present need of industries.

TechGrid PP Biaxial Geogrid

TechGrid PP Biaxial is an integrally formed biaxial geogrid that has been manufactured using punched and drawn procedure using quality polypropylene. The polymer has been stabilized using over 2.0% carbon black. The main applications of the TechGrid are Base and sub base stabilization in pavement, Trackbed stabilization in Railway and soil reinforcements.

The main mechanism of the PP Biaxial Tech Grid Geogrid is by giving the lateral confinement by interlocking of the aggregates, which

- Limits horizontal movements of aggregate
- Increases stiffness, at equal deformations it is possible to apply a higher load.
- Decrease in vertical stresses applied to subgrade and an increase of compressive horizontal stresses thus decreasing the possibility of crack formation



Geosynthetic Applications in Pavements

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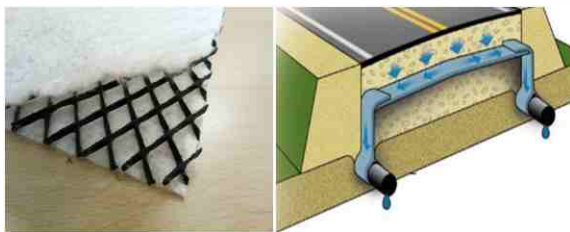


Lateral confinement of aggregates by PP Biaxial Geogrid for pavement and Track bed stabilization in Railway.

TechDrain Drainage Composite

A drainage composite TechDrain is used for drainage in pavement and retaining structures. It is a combination of a geonet and nonwoven geotextile. The geotextile used here is either needlepunched or a thermally bonded nonwoven geotextile, and the net/core used in between the two geotextiles or the one side geotextile is made up of high density polyethylene (HDPE).

When a geotextile is used on one or both sides of a geonet, the separation and filtration functions are always satisfied, but the drainage function is vastly improved in comparison to only geotextiles



Product Photo TechDrain Drainage Composite and pavement Application

TechCell Geocell

TechCell is a light weight yet strong, 3D honeycomb like cellular confinement system, which offer unique, eco-friendly solution for various civil engineering challenges. Engineered for diversity, TechCell can be utilised in various sectors such as roads, railways, ports and others.

Techcell Geocell are widely used in construction for erosion control, soil stabilization on flat ground and

steep slopes, channel protection, and structural reinforcement for load support and earth retention. Typical cellular confinement systems expanded on-site to form a honeycomb-like structure and filled with sand, soil, rock, gravel or concrete or available local soil or recycled materials.

The strength and stiffness of pavement layers determines the performance of highway pavements while aggregate use impacts the cost of duration of installation; therefore alternatives are needed to improve pavement quality using new materials with less aggregate usage or locally available materials or recycled materials, Geocells are one of the suitable geosynthetic reinforcement of granular soils to support static and moving wheel loads on roadways, railways and similar applications. But stiffness of the geocells was identified as a key influencing factor for geocell reinforcement, and hence the rigidity of the entire pavement structure.



Consturction of Road with use of Geocell

At Tech Fab, we have State of art manufacturing units in India, we have recently received Best Geosynthetics Manufacturer Awards, and we have Dedicated Research & Development team, Wide Product Portfolio. To know more about our company and its products please visit www.techfabindia.com and contact on info@techfabindia.com

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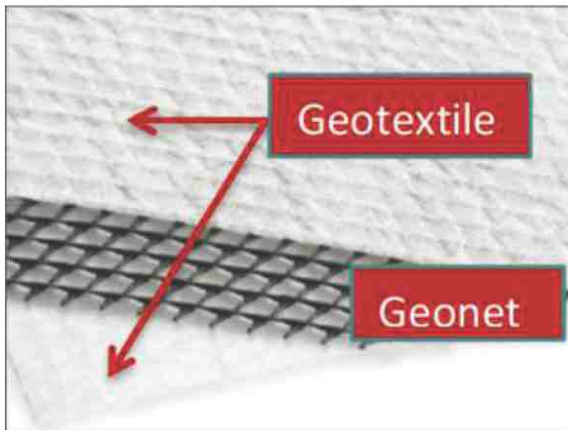
Web : www.techfabindia.com

At the Heart of Geosynthetic Activity

Tech Drain Drainage Composite

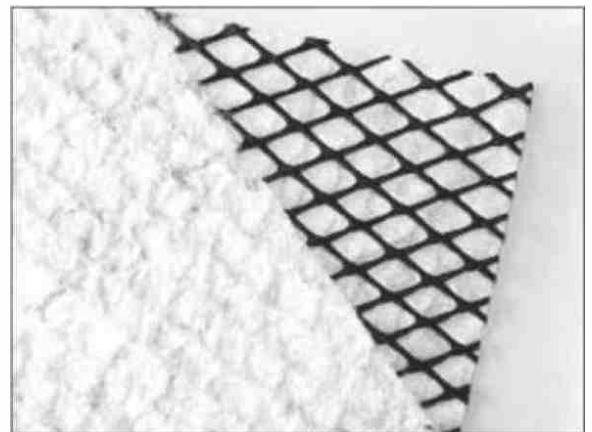
Drainage plays a critical role in the design and construction of most of the civil engineering applications. Without proper drainage, groundwater seepage may cause hydrostatic pressure and leakage, resulting in structural damage. So Techfab India has developed an innovative product used in the major application areas for Drainage, namely TechDrain – Drainage composite.

Techdrain drainage composite which is a geocomposite, subset within the family of geosynthetic



material. They are used as composite component in hydraulics as well as in environmental, geotechnical, and transportation applications.

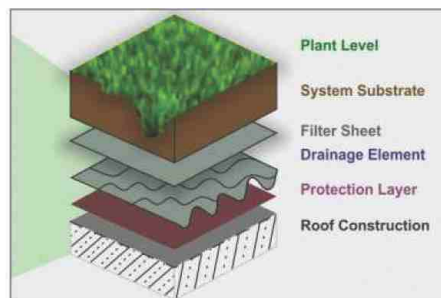
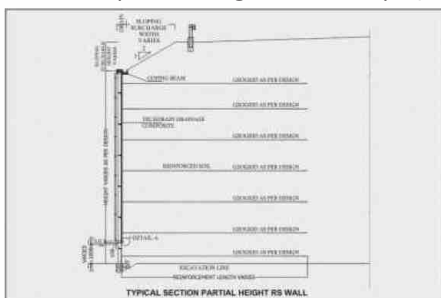
With the help of Techdrain drainage composite, one can gather the required features of all the materials for a common problem solution in a very effective manner. The main objective of geocomposite material, is to combine the best features of different materials in such a way that specific problems are solved in optimal manner providing optimum performance and minimum cost.



Techdrain Drainage Composite In Action

TechDrain Drainage composites are prefabricated subsurface drainage products which directly replaces the granular drainage layer. They normally consist of a polymer core sheet core covered by a geotextile acting as a filter and separator on one or both sides. This allows water to pass through into the polymer core but

prevent the soil to washing through. TechDrain's multi-directional flow design allows a continuous path for water discharge, eliminating the potential for hydrostatic pressure build up. It allows water to pass freely into the drainage core, where it is gravity fed into the main drainage collection system.



Advantages of Techdrain Drainage Composite

- Prevents the intermixing of the backfill soil with filter media, thus avoiding the clogging of the filter media
- Easy to install therefore allows fast construction
- Cost effective and technically superior/equivalent

measure

- It's multi-directional flow design allows a continuous path for water discharge, eliminating the potential for hydrostatic pressure build-up which increases service life.
- It can be used to engineer efficient and economic

At the Heart of Geosynthetic Activity

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solutions by minimizing aggregate requirement.

Application of Techdrain Drainage Composite

- Roads, Railtracks and airfiems
- Parking lots, hard standages, container yard
- Factory and warehouse floors
- Reinforced soil walls, bridge abutments, basement



Subsurface Drainage of Highways



Canal Lining



RE Wall



Gardening

Highlights of Techdrain Drainage Composite

- Remarkable integration with full-fledged production with in house lines under one roof for: PP Staple fiber, Nonwoven needle punch geotextile, 2D & 3D geonet
- In house testing Laboratory for Long term flow apparatus for testing transmissivity under ASTM D4714 and ISO 12958
- 4m width or shorter width also available
- Roll length available in 25m / 50m / 100m
- NABL and GAI-LAP certified Laboratory
- Can dispatch large quantities in short period of time
- Consistent and assured product quality
- End Users: MES, AAI, CIDCO, NRRDA, NHAI

We can assist design your imagination to work wonders on the foundation of excellence. Given a chance, we can prove our value for your company by producing and delivering quality products. Our aim is to provide outstanding Geosynthetic products, technical assistance and unsurpassed service that together, deliver premium value to our customer. We reinforce our values everyday through our people, our brands, our innovation and our performance.

About TechFab India Industries Ltd

TechFab India was founded in 2003 with the objective of providing world class geosynthetic products and services to serve the needs of infrastructure development in India. From a modest beginning with the setting up of a manufacturing facility for woven geotextiles in Silvassa, we have rapidly grown to become the largest manufacturer of geosynthetics in India. Today we manufacture a wide range of products at our factories in Silvassa and Daman. Details are as

walls

- Embankments, slopes, soil-nail walls
- Leachate collection and leak detection system in landfills
- Landscaping and Site grading Works
- Flyash ponds and dykes
- Tunnels and underground structure

under:

- TechGrid - knitted and polymeric coated PET Geogrids (CE and BBA Marked)
- TechGrid TS - Geogrid Strip
- TechGrid PP Biaxial Geogrids
- TechFab Geocells
- TechDrain Drainage Composite (CE Marked)
- TechDrain - PVDs (CE Marked)
- TechGeo Needle Punched Nonwoven Geotextiles (CE marked / AASHTO NTPEP qualified)
- TechPave (Nonwoven Paving Fabric)
- TFI Woven Geotextile
- TechFab Metal Gabions
- TechGlass - Glassfibre Geogrid with modified Bitumen Coating
- TechGlass AIC (Asphalt Interlayer Composite)
- TechGlass Composite - Polyester Geocomposite
- TechTube Geotextile Tubes, Geotextile Bags etc.
- TechFab Geostraps
- PP Staple Fiber



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