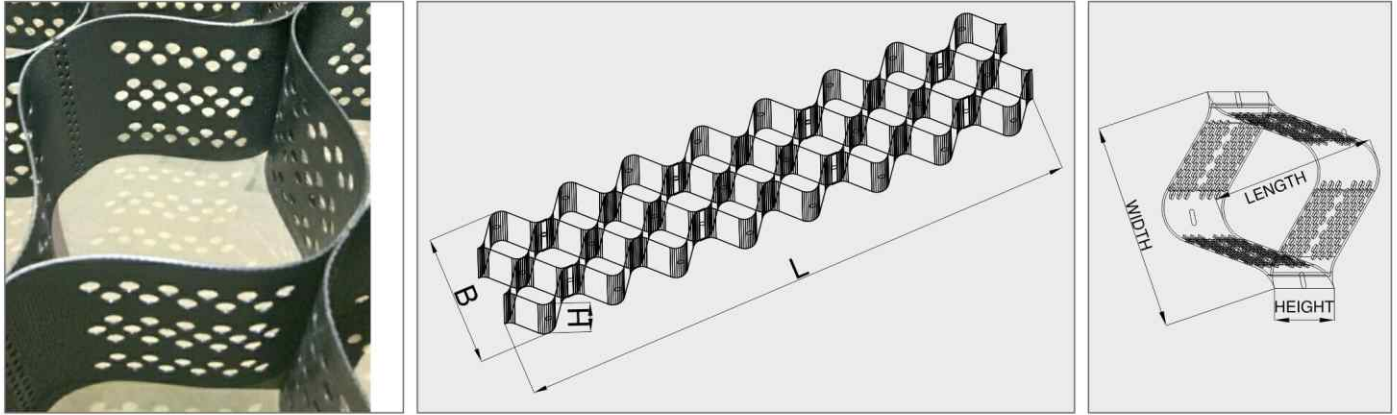


**TECHFAB INDIA**

*At the heart of geosynthetic activity*

TechFab India started manufacturing Techcell, which has a generic name Geocell. Techcell is a light weight yet strong, three dimensional honeycomb like cellular confinement system.

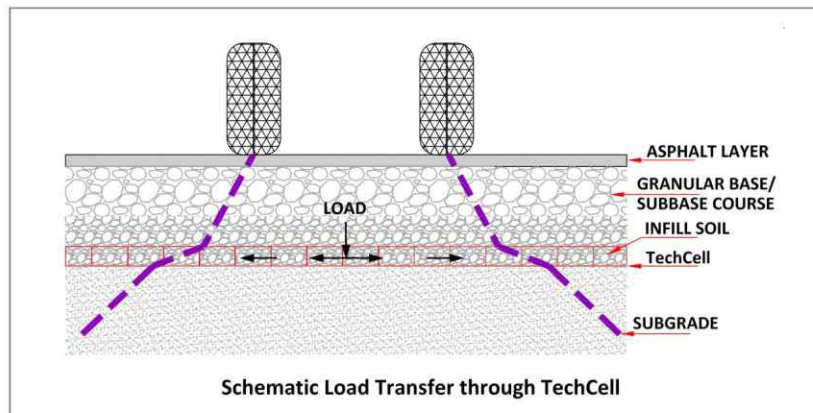


It is used with infill granular material and used for ground improvement to weak foundation soil by increasing its load bearing capacity and also to control slope erosion by surface protection system. The basic raw material used for its manufacturing is High Density Polyethylene stabilized with carbon black. There are different width of strips (as per the thickness requirement at site), connected through staggered welding and supplied in collapsed form. When open for use, it spreads like honeycomb structure hence providing ease during installation.

Techcell is perforated to allow passage of water thus dissipating pore water pressures and enhanced drainage, by performing dual functions, confinement cum reinforcement and Drainage. Sometimes Nonwoven Geotextile are used along with Techcell to add one more function, i.e. separation, at soft subgrade level. Techcell offers unique, eco-friendly solution in various sectors of civil engineering such as roadways, railways, for ground improvement, slope erosion protection etc..

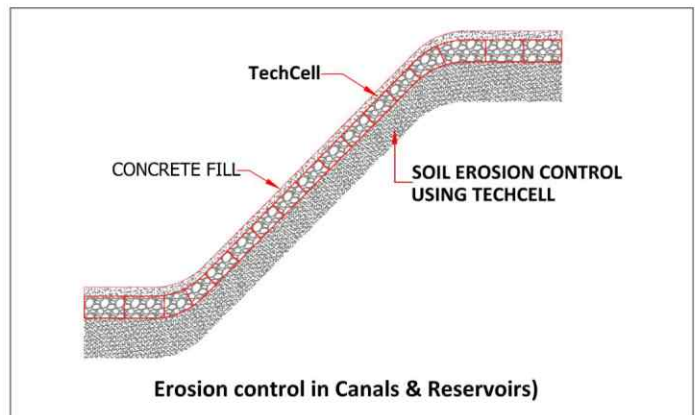
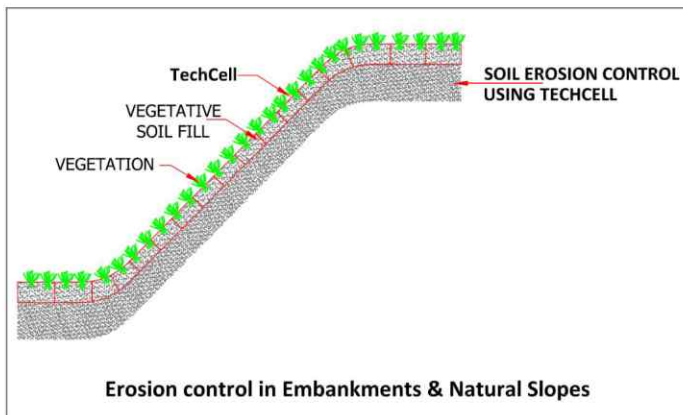
### TechCell Working Mechanisms

Techcell shall be laid with infill material, such as non-cohesive soil or any tested recycled materials. Techcell spreads on the ground, at required level, and soil is placed within the expanded cells. With applied loads, soil tries to spread laterally, and causes lateral stresses, which are taken care by resistance on the cell-soil interface, by Techcell three dimensional confinement. These will increase the shear strength of the confined soil, and increase load carrying capacity. With the infill granular material and holes in Techcell wall, it enhances drainage and releases pore water pressure.



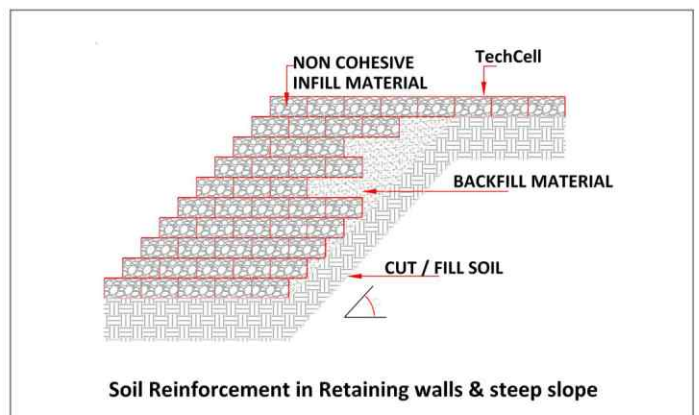
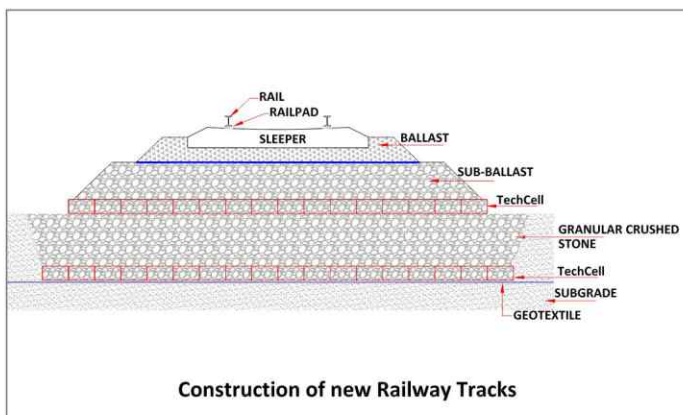
## Advantages of TechCell

- Techcell provide effective ground improvement solution, for weak soil foundation.
- By using Techcell, base / sub-base thickness can be reduced for paved and unpaved roads.
- Techcell allows economic usage of valuable natural resources including aggregates, sand etc., hence providing cost effective solutions to the geotechnical related issues such as ground improvement, erosion control, channel lining etc.
- Economical solution to the environment as they can be easily transported as flat strips and slows down carbon footprint by minimizing logistics..
- Ease of installation in any kind of weather condition. Also, they do not entail skilled masons
- Use of Techcell promotes green solutions on steep slopes.
- Techcell can be used as a reinforcement for Reinforced Soil Slopes.
- Techcell used with filled up soil can be vegetated for architectural appearance or left as lean concrete.



## Applications

- Roadways
- Railways
- Steep soil reinforcement
- Channel protection
- Reservoirs
- Landfill Areas



## TechCell Specifications

### Material Properties

Polymer Density	g/cm <sup>3</sup>	0.935-0.965
Environmental Stress Cracking Resistance	Hrs	>5000
Carbon Black Content	%	Min 2%
Material	Blend of various Polyethylene and additives	
Texture	Polyethylene strip consists of multiple rhomboidal indentations over the entire strip area on both sides of strip. The indentation have a surface density of 22 to 32 per cm <sup>2</sup>	
Perforations	Polyethylene strip is perforated with horizontal rows of maximum 10mm diameter holes. Cell perforations area is less than 12% of cell surface area.	

### Cell / Section Properties

Cell Properties	UNIT	TCI330	TCI356	TCI445	TCI660	TCI712	
Weld Spacing (+/-3%)	mm	330	356	445	660	712	
Cell Depth (+/-3%)	mm	75,100, 150, 200, 250, 300					
Expanded Cell Dimensions (+/-3%)	Width	mm	244	259	320	488	508
	Length	mm	210	224	287	436	475
Expanded Cell Area (+/-3%)	cm <sup>2</sup>	250	289	460	1000	1206	
Nominal Expanded Section Dimension (+/-3%)	Width	m	2.44	2.59	3.20	4.88	5.08
	Length	m	6.10	6.50	8.32	12.63	13.78
Nominal Expanded Section Area	m <sup>2</sup>	14.9	16.8	26.6	61.7	70.0	

## About Techfab India Industries Ltd.

Established in 2003, TechFab India has become the largest geosynthetics manufacturing company in India, with an extremely wide range of world class products, which are exported to more than 25 countries. Our products are regularly tested at our three, in-house, NABL and GAILAP accredited laboratories and also at several reputed independent accredited laboratories.

We manufacture the following products at our state-of-the-art plants in Silvassa and Daman in India.

- Techgrid knitted and polymeric coated PET Geogrids (CE and BBA certification)
- TechGrid PP Biaxial geogrids (CE Marked)
- Tech GeoMattress
- TechGlass AIC Asphalt Interlayer Composite
- TFI 3000 Woven PET Geotextiles (CE marked)
- Techcell (CE Marked)
- Techstrap Polyester Strap (CE Marked)
- Techgeo needle-punched nonwoven geotextiles (CE marked / AASHTO NTPEP qualified)
- TechPave Paving Fabric (CE Marked)
- TechFab Geotextile Tubes and Bags
- TechDrain PVD (CE Marked)
- TechDrain Drainage Composite
- TechFab Metal Gabions (CE Marked)



**TECHFAB INDIA**

At the heart of geosynthetic activity

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