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terrafix[®]
Terraweb[®]

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terrafix[®] Cellular Confinement System

geosynthetics inc.

Terraweb[®] is a light-weight, flexible, polyethylene confinement system consisting of three-dimensional cells in a honeycomb-like structure. Terraweb[®] creates an economical erosion barrier or structural foundation. Applications include:

Ground stabilization for temporary/ permanent roads

Terraweb[®] is effective in distributing applied loads over a large surface. It significantly reduces pressure applied to the subgrade by loads exerted on the top surface of the cells. Because the cell walls resist lateral movement, Terraweb[®] can transform poor quality infills into stable load bearing surfaces.

Erosion Control for Slopes

Using vegetated soils, Terraweb[®] improves the performance of slopes by protecting and reinforcing the roots zones and directing hydraulic flows over the top of the cells. For slopes with granular fill, Terraweb[®] improves the performance by controlling the migration of fills. This is accomplished by dissipating hydraulic energy in and underneath the cells and by confining the fill material within the cells.

Erosion Control for Channels

Whether using soil with vegetation, aggregate, or concrete as infill within the cells, Terraweb[®] offers an effective method of erosion protection either during intermittent or continuous flows. The cells act as a series of check dams, thereby dissipating energy of high flowing water.

Pipeline Beds

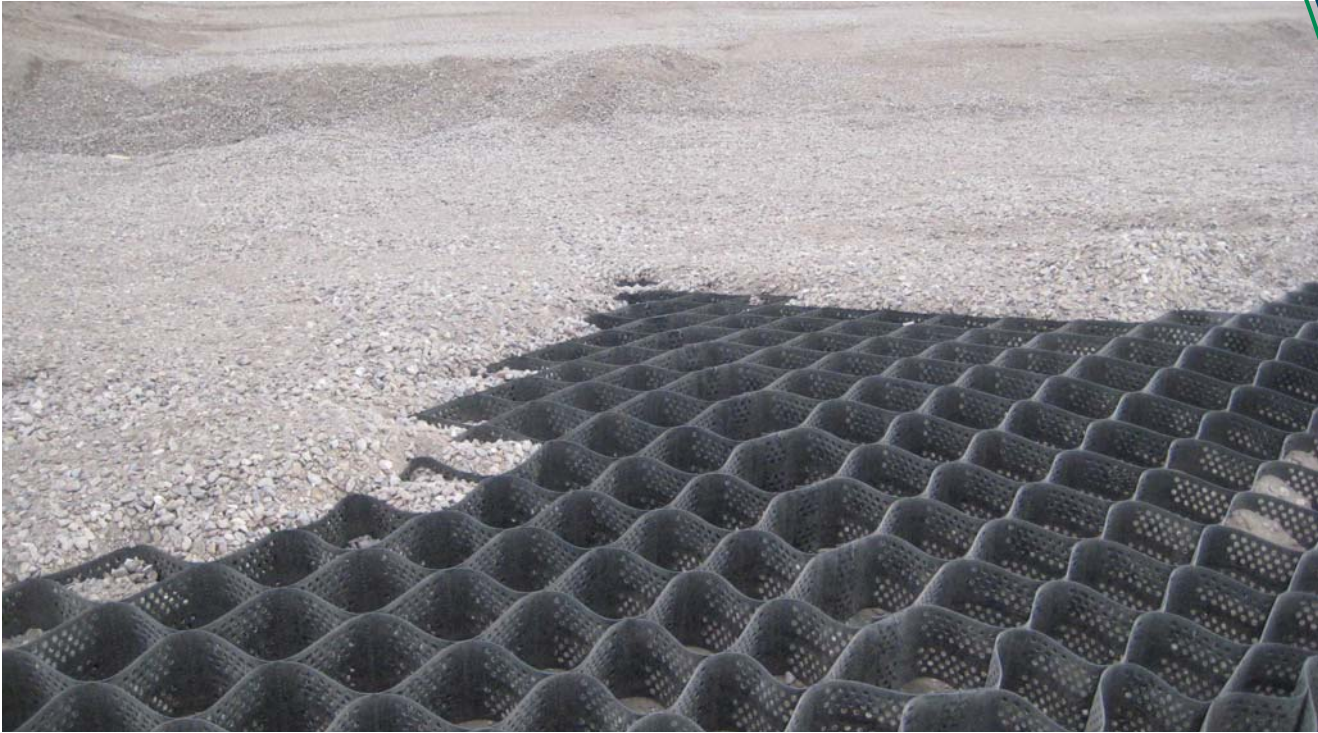
Terraweb[®] installs easily, eliminating over excavation or excessive stone placement.



General Installation Guidelines

The following installation guidelines are provided for the application of the Terraweb[®] Cellular Confinement System. **terrafix[®]** Geosynthetics Inc. provides this information only as an accommodation to our customers and makes no warranties or other representations regarding the suitability of the Terraweb[®] for specific uses or applications.

- Prepare the site by removing all vegetation, roots, debris and other foreign material from the subgrade surface. Replace any removed soils with acceptable material and complete earthwork, including toe in trenches when required for slopes and channel lining applications.
- Proof-roll the subgrade surface to provide a smooth working surface.
- Depending on the site requirement, geotextile may/may not be required under the Terraweb[®] to keep the infill from migrating out from under the cells.
- Partially install the “J” pins, leaving a protruding length of 50mm higher than the cell depth, along the top edge of the area in which the Terraweb[®] is to be installed.
- Terraweb[®] panels should be slightly stretched past the design length then allow to settle back to the designed length. Set the end cells of the Terraweb[®] over the previously installed “J” pins and complete installation of the “J” pins flush with the top of the cell walls.
- Join the adjacent panels so that they are flush with each other. Secure adjoining panels to each other using a pneumatic stapler or other means as required by the job application.
- Install the balance of the “J” pins as required by the job specifications (typically 1 per square meter).
- Fill the cells using materials specified in the job specifications (e.g. vegetative soil, aggregate, concrete etc.). Limit the drop height of the infill to no more than 1m.
- Never allow any equipment to drive over unfilled cells.
- Infill should be delivered to the Terraweb[®] from the top of the slope or channel to the base using a front-end loader, backhoe, bucket excavator or conveyor.
- Overfill the Terraweb[®] cells by 25mm-50mm to allow for consolidation and compaction.
- Sand and granular fills should be blade compacted to the top of the cells.
- Topsoil fills should be compacted with the loader or backhoe bucket or with tamper plate.
- Concrete fills should be manually raked and machine finished.



| MATERIAL PROPERTIES | TEST METHOD | UNIT | TEST VALUE |
|---------------------------------------|-------------|-------------------|------------------|
| Minimum Polymer Density | ASTM D 1505 | g/cm ³ | 0.941 - 0.960 |
| Environmental Stress Crack Resistance | ASTM D 1693 | hrs | 4000 |
| Carbon Black Content | ASTM D 1603 | % by weight | 1.5% minimum |
| Nominal Sheet Thickness | ASTM D 5199 | mm (mils) | 1.25mm (50) ± 5% |

| PHYSICAL PROPERTIES | UNIT | TYPICAL VALUE | | | |
|---|------------------------------------|---|------------|------------|------------|
| Nominal-Expanded Cell Size (width x length) | mm (in) | 259 (10.2) x 224 (8.8) | | | |
| Nominal-Expanded Cell Area | cm ² (in ²) | 289 (44.8) | | | |
| Nominal-Expanded Section (width x length) | m (ft) | 2.56 (8.4) x 6.52 (21.4) | | | |
| Nominal-Expanded Section Area (width x length) | m ² (ft ²) | 16.7 (180) | | | |
| Cell Depth | mm (in) | 75 (3) | 100 (4) | 150 (6) | 200 (8) |
| Seam Peel Strength ¹ | N (lbs) | 1065 (240) | 1420 (320) | 2130 (480) | 2840 (640) |
| Section Weight | Kg(lbs) | 19.5 (43) | 25.9 (57) | 39 (86) | 51.7 (114) |
| Sections per Pallet | -- | 60 | 50 | 30 | 25 |
| Seam Hang Strength | -- | A 102mm (4.0in) weld joint supporting a load of 72.5 kg (160 lbs) for 30 days minimum or a 102mm (4.0in) weld joint supporting a load of 72.5 kg (160 lbs) for 7 days minimum while undergoing temperature change from 23°C (74°F) to 54°C (130°F) on a 1 hour cycle. | | | |

¹ Seam Peel Strength per U.S. Army Corps of Engineers Technical Report GL-86-19, Appendix A

² Licensed from the United States Army under Patent No. 4,797,026.



terrafix® Terraweb®

Cellular Confinement System

How It Works

For difficult erosion control situations, the Terraweb® cellular confinement system can be substituted for a more convenient system of expensive heavy materials such as rip-rap, armour stone, gabions etc. Terraweb® can be filled with soil, sand, small rock or concrete. The cells confine the fill material and protect it from being moved by wind or water. The cell walls prevent formation of rills and gullies.

Features

- Light weight and easy to install
- Reinforces unstable surfaces
- Eliminates over excavation
- Eliminates excessive stone placement

Benefits

- Reduced material cost
- Reduced labour cost
- Reduced installation cost
- Economical option to strengthen soft soil areas

The information contained herein has been compiled by Terrafix Geosynthetics Inc. and is, to the best of knowledge, true and accurate. All suggestions and recommendations are offered without guarantee. Final determination of suitability for use based on any information provided is the sole responsibility of the user. There is no implied or expressed warranty of merchantability or fitness of the product for the contemplated use.

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