



ENVIROGRID®

Proven Worldwide Solutions
www.geoproducts.org



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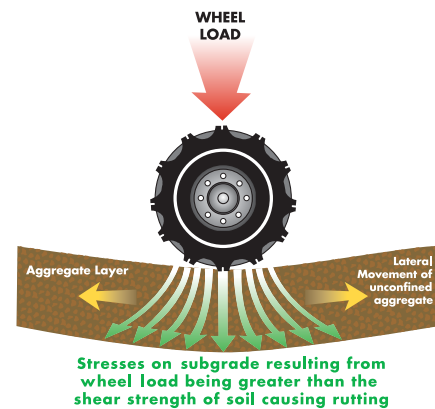




Cellular Confinement Systems

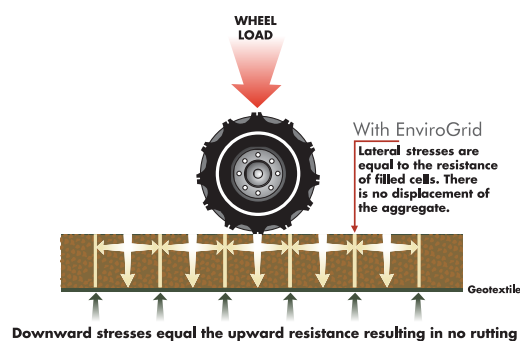
It is well known that an ideal soil material for use in civil engineering applications is one that compacts well and drains water freely. The problem is that the better draining soils are difficult to confine in place. Geo Products EnviroGrid cellular confinement system provides a solution.

Although confining soil materials have many benefits, it is not always easy or inexpensive to accomplish. The U.S. Army Corps of Engineers (USACE) experimented with a variety of methods that could be used to confine sand during an amphibious assault. Their solution is a product in which strips of plastic are welded together such that, when expanded, the welded strips form a rectangular panel made of individual cells that resemble a honeycomb. Today, this same concept is employed by civil engineers all over the world to confine onsite materials.



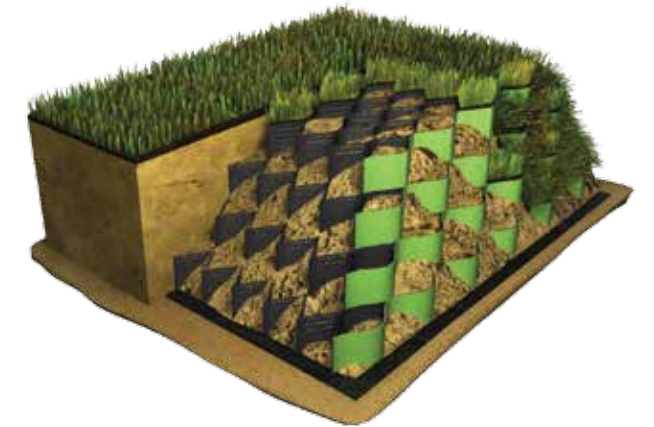
Soil Stabilization

By simply using onsite non-cohesive soils or sand, EnviroGrid can reduce the amount of aggregate required to stabilize a poor load bearing soil by up to 65%. By confining the infill material within the connected cells, the system prevents lateral movement of that infill. The panel acts like a large mat, distributing applied loads over an extended area. Due to the high costs and environmental concerns of mining and hauling quality aggregates, engineers are specifying EnviroGrid to save money and the environment in many ground stabilization projects.



Slope Erosion Control

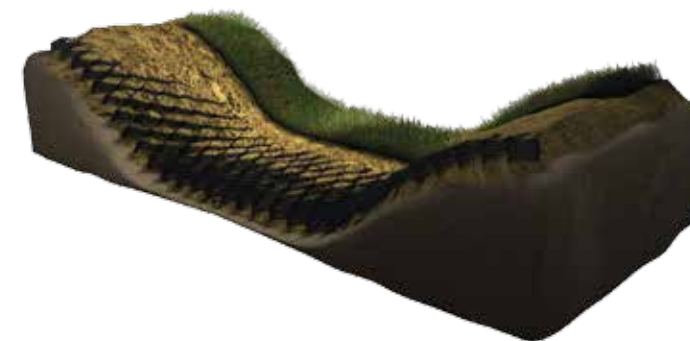
In very steep slope applications where it is not feasible to place EnviroGrid panels on the slope face, soils can be retained with an EnviroGrid vertical wall structure. Filled with local soils, EnviroGrid can be used in both cut and fill situations by holding the soil in place and providing drainage throughout the structure. The outer cells of an EnviroGrid retaining wall can be vegetated providing an environmentally pleasing look.



Retaining Walls

EnviroGrid is successful at protecting channels by counteracting various flow velocities. A few recommended Infill materials are listed below:

Aggregate	Vegetated Soil	Concrete
10 fps (3 m/s)	20 fps (6 m/s)	23+ fps (7+ m/s)



Channel Protection

EnviroGrid replaces traditional wooden concrete forms, providing a flexible confining structure that conforms to irregular channel subgrades holding the concrete in place reducing cracking.

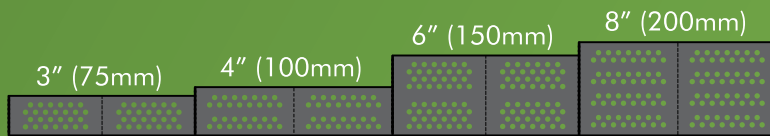




EnviroGrid panels are manufactured from virgin, high-density polyethylene. No post-consumer resins (PCR) of any type are added to the formulation. Standard panels contain 58 strips of HDPE, ultrasonically welded at different distances depending upon the chosen product configuration. wide. Each strip is between 3 to 8 inches (75 to 200 mm), depending upon the cell depth, and 142 inches (3.6m) in length. Cell walls are textured and between 11% and 16% of the cell wall is removed by the perforations.

Material Properties	Test Method	Unit	Test Value
Polymer Density	ASTM D 1505	g/cm ³ (lb/ft ³)	0.935-0.965 (58.4-60.2)
Environmental Stress Crack Resistance	ASTM D 5397	hours	> 400
Environmental Stress Crack Resistance	ASTM D 1693	hours	6000
Carbon Black Content	ASTM D 1603	% by weight	1.5% minimum
Nominal Sheet Thickness before texturing	ASTM D 5199	mm (mil)	1.27 (50) -5%, +10%
Nominal Sheet Thickness after texturing	ASTM D 5199	mm (mil)	1.52 (60) -5%, +10%

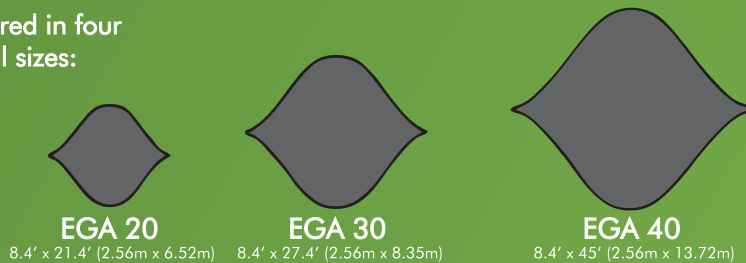
Physical Properties	Unit	Test Value			
Cell Depth	mm (in)	75 (3)	100 (4)	150 (6)	200 (8)
Seam Peel Strength	N (lbf)	1065 (240)	1420 (320)	2130 (480)	2840 (640)
Seam Hang Strength	A 102mm (4in) weld joint supporting a load of 72.5 kg (160 lbs) for 30 days minimum or a 102mm (4in) weld joint supporting 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.				



EnviroGrid is manufactured in four cell depths and three cell sizes:



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EnviroGrid panels can be provided in cell heights of 3" (75mm), 4" (100mm), 6" (150mm), and 8" (200mm). Three different cell sizes are available and standard panels are constructed of 58 strips with the dimensions above. Custom colors and sizes are also available.

