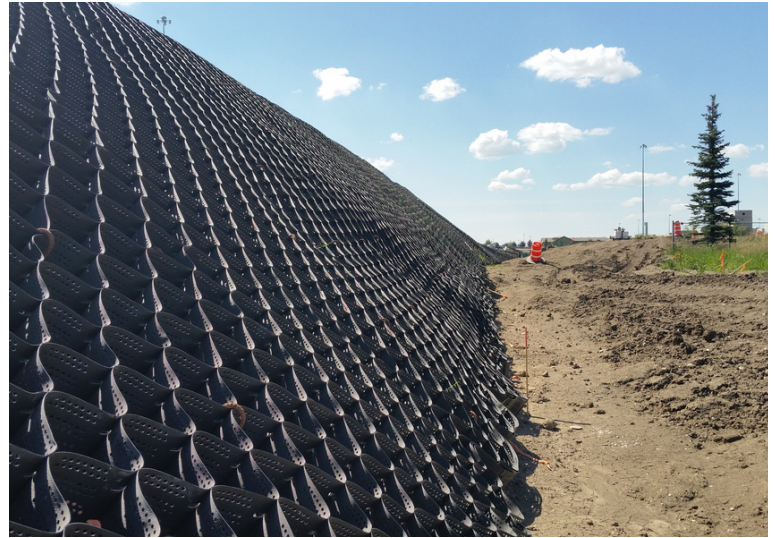




GEO PRODUCTS, LLC

MANUFACTURER OF ENVIROGRID® GEOCELL SINCE 1990

PRODUCT OFFERINGS



EnviroGrid® Geocell
Cellular Confinement System



EnviroGuard®
Geomembrane Liner, HDPE Pipe

ENVIROGRID®

GEOCELL

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CONTACT
Austin Bear
abear@geoproducts.org
713.248.0902

Developed in the late 1970's by The U.S. Army Corps of Engineers and manufactured by Geo Products since 1990, geocell cellular confinement has been used worldwide as a solution to soil stabilization issues.

EnviroGrid® geocell is made by ultrasonically welding plastic strips made from 100% virgin HDPE resin to form a honeycomb-like structure.

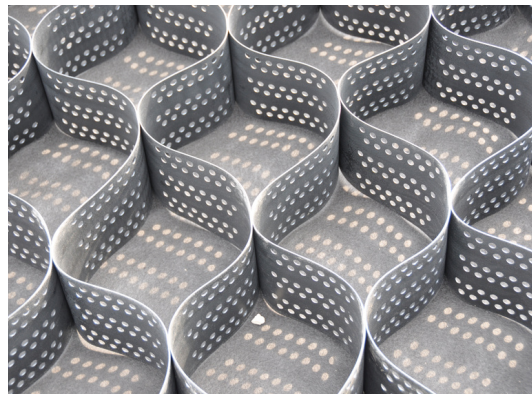


ENVIROGRID® GEOCELL | CELLULAR CONFINEMENT SYSTEM

EnviroGrid® makes it possible to construct sustainable roads over soft soils. By boosting the weight bearing ability of the rolling course, geocell helps prevent rutting and erosion in high-traffic areas. The amount of infill material is reduced and also allows for locally available aggregate, with less maintenance required over time.

SUB-GRADE IMPROVEMENT
HEAVY LOAD SUPPORT
INCREASED INFILL STABILITY

ACCESS ROADS | HAUL ROADS | RIG PADS



PANEL SIZING

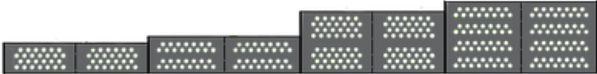
ENVIROGRID® GEOCELL

There are various cell apertures or sizes as well as cell heights offered. The sizing of material is dependent on the specific application for which the product is being used. EnviroGrid® is packaged and shipped in collapsed panels for ease of shipping and handling, and are installation-ready.

CELL APERTURES:
EGA 20 EGA 30 EGA 40



CELL HEIGHTS:
3" 4" 6" 8"



ACCESSORIES:
ENVIROCLIP™ TWIST ANCHOR
ENVIROLOCK PANEL CONNECTION



*Above are the typical cell dimensions that are offered. Custom cell heights can be manufactured for specific projects.

CERTIFIED FIELD TESTING

Large-scale performance testing of all EnviroGrid® products were conducted by a third-party national lab to verify its true field performance. Throughout a series of cyclical load plate tests under various pressures to simulate rolling course traffic, measurements were taken throughout the four tests below.

CYCLIC STRESS AT SUB-BASE	EXTENDED CYCLIC AUTOMATED PLATE LOAD	INFILL MATERIAL DEFORMATION	STATIC STRAIN MODULUS
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INTERNAL CAPABILITIES

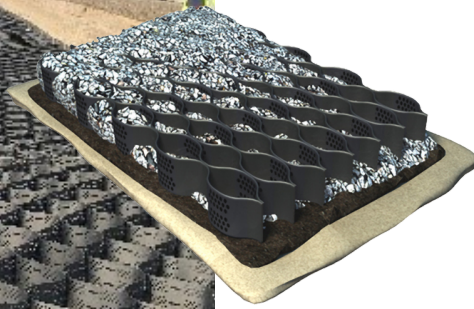
DESIGN & ENGINEERING SUPPORT

- Build-A-Spec Generator Tool
- Installation Support
- Design Calculators
- Specific Cad Details
- Case Studies/Pictures/Videos

www.geoproducts.org/technical-design

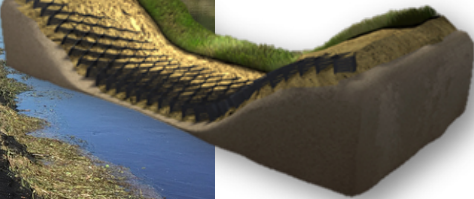


BASE STABILIZATION



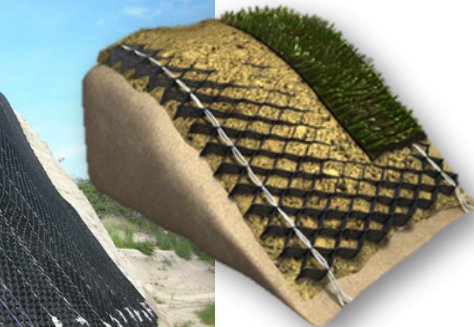
The expanded panels act as a large mat, distributing applied loads over an extended area. The three-dimensional cells increase strength and stiffness of the infill, which boosts their weight-bearing capabilities and allows for the use of permeable aggregates.

CHANNEL PROTECTION



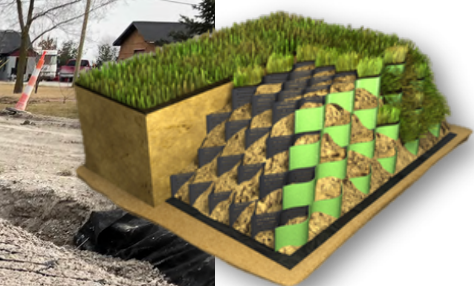
EnviroGrid® is successful at protecting channels by counteracting various flow velocities. It can be laid directly on the slope and properly anchored. Based on the channel characteristics, EnviroGrid® can be filled with angular rock, vegetated soil, or concrete. Geo Products offers the needed anchoring for the system's integrity.

SLOPE EROSION CONTROL



EnviroGrid® placed on slopes will hold infill material in place. The cell walls slow the flow of water down the slope or in areas affected by wave action, reducing the formation of rills, a major cause of soil erosion. Depending on the site specific application, EnviroGrid® can be filled with angular rock, concrete or native soils.

RETAINING WALLS



In very steep slope applications, soils can be retained with a 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 can be vegetated, providing an environmentally pleasing look.

PRODUCT BENEFITS

SOIL STABILIZATION APPLICATIONS

MINIMIZE MAINTENANCE

Take control of high-traffic areas by installing EnviroGrid® to prevent erosion and formation of potholes.

REDUCE INFILL MATERIAL

EnviroGrid® allows the use of local infill material and reduces material needed by 2/3, reducing costs even more.

MAXIMIZE STABILITY

The high-strength cell walls increase strength and stiffness of the infill material, which boosts their weight-bearing capabilities.



SOIL STABILIZATION | CASE STUDY

Devon Energy was seeking a cost-effective yet sustainable way to construct haul roads over soft, native soils with poor load-bearing capabilities. The ability to use less expensive on-site material to build the roads while still supporting heavy loads under these conditions were the primary benefits of using EnviroGrid® over alternative methods.

The roads were graded and compacted and the EnviroGrid® panels were installed over a non-woven geotextile fabric. EnviroGrid® was filled with local sands, compacted and ready for traffic. EnviroGrid® provided a reliable system to construct the haul roads over the existing soft soils using locally available infill material. The confinement system keeps the non-cohesive material in place and provides stability to once poor load bearing material.

Please call us at **281.820.5493** or visit our website **www.geoproducts.org** for full & preliminary design support, CAD drawings, additional detailed case studies and more information.





Geo Products, LLC
 12626 North Houston Rosslyn Rd.
 Houston, TX 77086
www.geoproducts.org
info@geoproducts.org
 281.820.5493

ENVIROGRID® GEOCELL

SPECIFICATIONS

EnviroGrid® is a three dimensional cellular confinement system that provides confinement and reinforcement to granular material. Therefore, it can be used for load support, erosion control, slope protection and retaining wall construction. The EnviroGrid® sections are manufactured from 58 strips of HDPE, resulting in a section length of 29 cells. Each strip is the approved width and 142 inches (3.6m) in length.

MATERIAL PROPERTIES	TEST METHOD	UNIT	TEST VALUE
Polymer Density	ASTM D 1505	lb/ft ³ (g/cm ³)	58.4 - 60.2 (0.935 - 0.965)
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 ¹ before texturing	ASTM D 5199	mil (mm)	50 (1.27) -5%,+10%
Nominal Sheet Thickness ¹ after texturing	ASTM D 5199	mil (mm)	60 (1.52) -5%,+10%

*Polyethylene strip shall be textured with a multitude of rhomboidal (diamond shape) indentations. The rhomboidal indentations shall have a surface density of 140 to 200 per in² (22 to 31 per cm²).

¹ The Nominal Sheet Thickness is an average thickness of the sheet, taken from the mean of 10 readings.

Product	Nominal-Expanded Cell Size (width x length) in (mm)	Nominal-Expanded Cell Area in ² (cm ²)	Nominal-Expanded Section (width x length) ft (m)	Nominal-Expanded Section Area ft ² (m ²)	Minimum-Expanded Section (width x length) ft (m)	Maximum-Expanded Section (width x length) ft (m)	Cell Depth in (mm)	Seam Peel Strength lbf (N)	Percent Cell Wall Open Area (%)	Seam Hang Strength
EGA20	10.2 x 8.8 (259 x 224)	44.8 (289)	8.4 x 21.4 (2.56 x 6.52)	180 (16.7)	9.2 x 19.4 (2.8 x 5.9)	7.6 x 23.3 (2.3 x 7.1)	3 (75)	240 (1060)	16 ± 1%	A 4 in (102mm) weld joint supporting a load of 160 lbs (72.5 kg) for 30 days minimum or a 4 in (102mm) weld joint supporting a load of 160 lbs (72.5 kg) for 7 days minimum while undergoing temperature change from 74°F (23°C) to 130°F (54°C) on a 1 hour cycle.
							4 (100)	320 (1420)	11 ± 1%	
							6 (150)	480 (2130)	16 ± 1%	
							8 (200)	640 (2840)	11 ± 1%	
EGA30	12.6 x 11.3 (320 x 287)	71.3 (460)	8.4 x 27.4 (2.56 x 8.35)	230 (21.4)	9.2 x 24.8 (2.8 x 7.6)	7.6 x 30.0 (2.3 x 9.1)	3 (75)	240 (1060)	16 ± 1%	
							4 (100)	320 (1420)	11 ± 1%	
							6 (150)	480 (2130)	16 ± 1%	
							8 (200)	640 (2840)	11 ± 1%	
EGA40	20 x 18.7 (508 x 475)	187 (1206)	8.4 x 45 (2.56 x 13.72)	378 (35.14)	9.2 x 40.9 (2.8 x 12.5)	7.6 x 49.7 (2.3 x 15.1)	3 (75)	240 (1060)	16 ± 1%	
							4 (100)	320 (1420)	11 ± 1%	
							6 (150)	480 (2130)	16 ± 1%	
							8 (200)	640 (2840)	11 ± 1%	

This information is provided for reference purposes only and is not intended as a warranty or guarantee. Geo Products, LLC assumes no liability in connection with the use of this information. Check with Geo Products, LLC for current, standard minimum quality assurance procedures. GPESV Rev 1/2020

HDPE LINER SOLUTIONS PIPE PRODUCTS

ENVIROGUARD®

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LINER**

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STUDY**

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**HDPE PIPE
PROUDCTS**

CONTACT
John Oberly
joberly@geoproducts.org
281.685.0745



ENVIROGUARD®

GEOMEMBRANE LINER



EnviroGuard®, a product line of Geo Products, specializes in offering custom-fabricated polyethylene geomembrane for liner applications. Our geomembranes are custom fabricated in-house with superior quality control standards, packaged, and ready to be installed immediately.

CONTAINMENT

RETENTION/DETENTION PONDS
COMMERCIAL/RESIDENTIAL
BERMS/ RESERVOIRS

AGRICULTURAL

IRRIGATION SOURCES
LAND DEVELOPMENT
RAIN COVERS



4 ACRE POND

INSTALLED BY GEO PRODUCTS, LLC

EnviroGuard® Liner was used to line a 4 Acre pond on this Texas property. Even with the rain delays from the August weather, the technicians were able to complete the entire installation in 5 days.



Every pond installation performed by our skilled team of experts, generates a full quality control report which includes full documentation of detailed panel layouts, seam testing to ensure strength, and necessary repairs.

ENVIROGUARD®

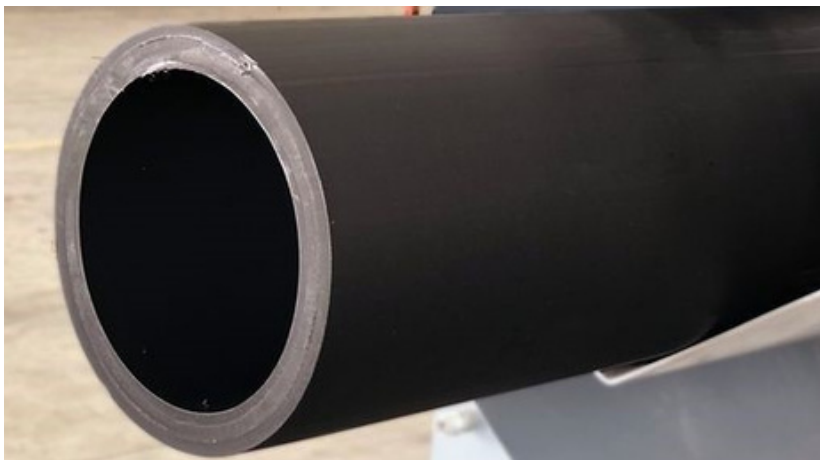
HDPE PIPE PRODUCTS



EnviroGuard™ Pipe is manufactured with high-quality HDPE resins under superior quality control standards, with all resins rated PE-4710.

Our products have been tested and proven effective for underground, above-ground, surface, and floating pipe applications.

All products are offered in various types and sizes ranging from 2" to 48".



OIL & GAS | INDUSTRIAL | MUNICIPALITIES



Custom Fabricated Fittings



Specialty Pipe



HDPE Pipe

GEO PRODUCTS, LLC

HOUSTON, TEXAS

MANUFACTURER

ENVIROGRID® GEOCELL

Austin Bear
abear@geoproducts.org

SUPPLIER

ENVIROGUARD® PRODUCT LINE

GEOMEMBRANE LINER
HDPE PIPE PRODUCTS

John Oberly
joberly@geoproducts.org

LOCATION

12626 N. Houston Rosslyn Rd.
Houston, Texas 77086
281.820.5493 | info@geoproducts.org