



GEO PRODUCTS

INTEGRATED GEOSYNTHETIC SOLUTIONS

SINCE 1990

COMPANY OVERVIEW VIDEO

MANUFACTURER SINCE 1990



For over 30 years, Geo Products has manufactured EnviroGrid Geocell to provide solutions for foundation and erosion control issues in every day and the most challenging scenarios. Geo Products manufactures its products in the United States under stringent quality control standards, and is an active member of multiple industry organizations and platforms. Project specific technical resources are available for each application designed with EnviroGrid®.

PRODUCT OFFERINGS



EnviroGrid® Geocell
Cellular Confinement System



Mesh Products
Grass Protection Mesh

**YOU ONLY BUILD ONCE;
BUILD IT RIGHT WITH ENVIROGRID®**

Learn more about cellular confinement technology by scanning to QR code to view our video.



Manufactured in
an ISO 9001
Certified Facility

ENVIROGRID®

GEOCELL

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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

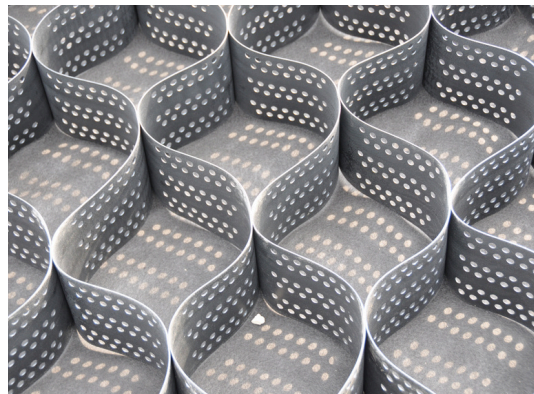


SCAN QR CODE TO WATCH OUR HOW IT WORKS VIDEO

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 PIN
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

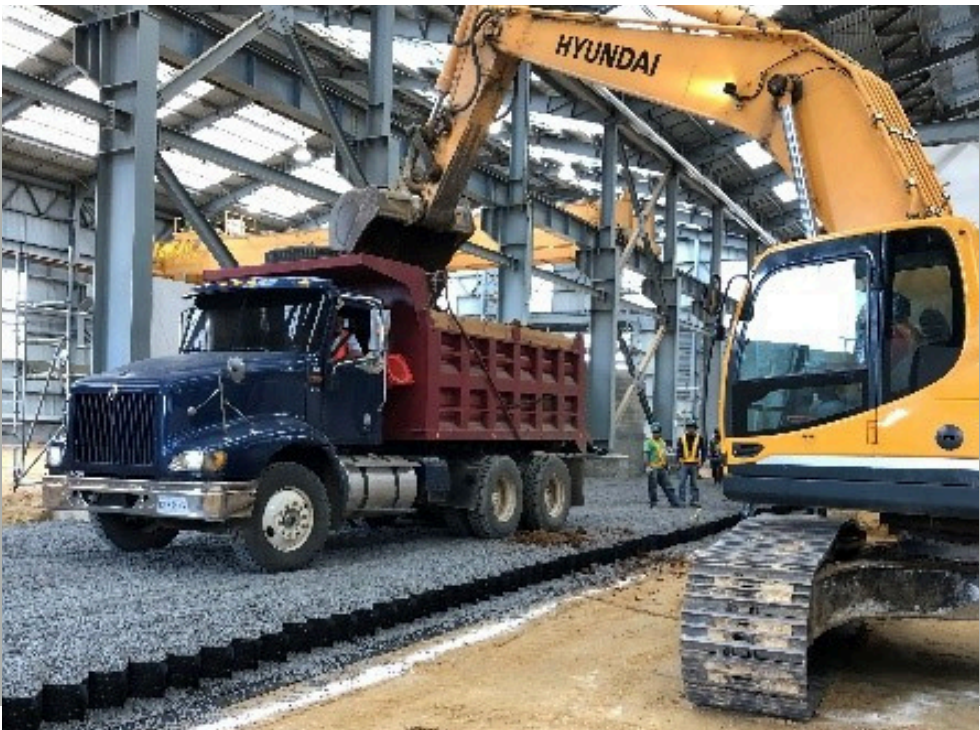
STATIC STRAIN
MODULUS

INTERNAL CAPABILITIES

DESIGN & ENGINEERING SUPPORT

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

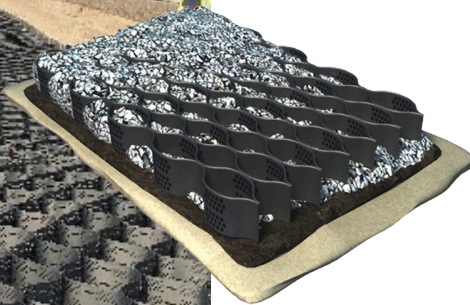
www.geoproducts.org/technical-design





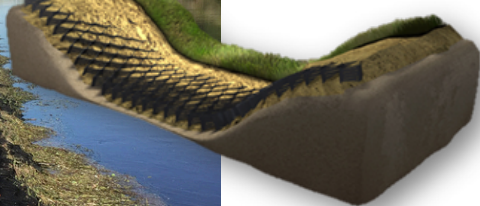
BASE STABILIZATION

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.



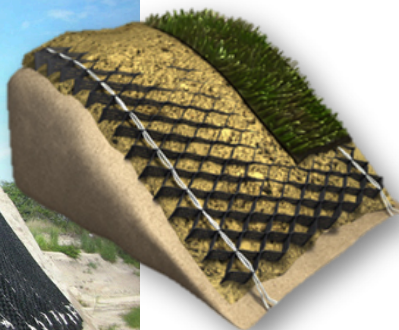
CHANNEL PROTECTION

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.



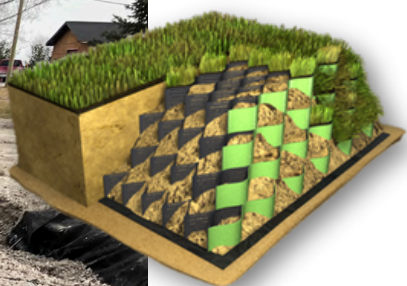
SLOPE EROSION CONTROL

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.



ENVIROGRID® GEOCELL PRODUCT SPECIFICATIONS

EnviroGrid® is a three-dimensional cellular confinement system that provides confinement and reinforcement to granular material for load support erosion control, slope protection and retaining wall applications. 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. Each EnviroGrid® product is manufactured in cell heights of 3", 4", 6", and 8". Custom sizes are able to be manufactured upon request.

PRODUCT DIMENSIONS

Expansion - Nominal					Minimum	Maximum
Product Code	Cell Size width, length in (mm)	Cell Area in2 (cm2)	Section width, length ft (m)	Section Area ft2 (m2)	Section width, length ft (m)	Section width, length ft (m)
EGA 20	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)
EGA 30	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)
EGA 40	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)

PRODUCT PERFORMANCE STRUCTURAL INTEGRITY, DURABILITY

MATERIAL PROPERTIES	UNIT	VALUE	MATERIAL PROPERTIES	TEST METHOD	UNIT	VALUE
Seam Peel Strength - Minimum	lbf/in (N/cm)	> 80 (142)	Environmental Stress Crack Resistance	ASTM D 1693	hours	>5,000
Seam Peel Strength - Long Term ¹	lb (N)	160 (710)	Oxidation Resistance ⁵	EN ISO 13438	years	>100
Internal Junction Efficiency ²	%	>100	Weathering Resistance ⁶	EN 12224	%	100
Mechanical Junction Efficiency ²	%	>100				
Peak Friction Angle Ratio ³	n/a	0.95				

MATERIAL PROPERTIES

MATERIAL PROPERTIES	TEST METHOD	UNIT	VALUE
Polymer Density	ASTM D 1505	g/cm3	0.935 - 0.965
Flexural Storage Modulus	ISO 6721	MPA	>800
Carbon Black Content ⁴	ASTM D 1603	%	1.5 - 2.0
Texture Density (Shape: Rhomboidal)	-	indentations / cm2	22 - 31
Sheet Thickness - before texture	ASTM D 5199	mil (mm)	50 (1.27) -5%, +10%
Sheet Thickness - after texture	ASTM D 1599	mil (mm)	60 (1.52) -5%, +10%

1) A 4" (100mm) wide seam sample shall support a 160lb (72.5kg) load for a period of 7 days minimum in a temperature-controlled environment undergoing a temperature change on a 10 hour cycle from ambient room to 130°F (54°C). Ambient room temperature per ASTM E 41.

2) Junction efficiency determined as a percentage of junction performance (EN ISO 13426-1) to perforated strip performance (EN ISO 10319).

3) Value for clean granular infill material.

4) Standard black HDPE strips. For tan/green EnviroGrid®, hindered amine light stabilizer (HALS) content will be 2.0% by weight of carrier.

5) Predicted to be durable for a minimum of 100 years in natural soil with a pH between 4 and 9 and at soil temperature <25°C. Testing was conducted at 100°C.

6) 100% of original tensile strength retained following exposure to intense UV radiation and accelerated weathering in accordance with EN 12224.

MANUFACTURING CERTIFICATIONS

Geo Products manufactures EnviroGrid® in the United States in an ISO 9001 facility under stringent quality control standards. Geo Products Quality Management System is ISO 9001:2015 certified and holds the CE and UKCA marking for EnviroGrid® products.



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MESH PRODUCTS

GRASS PROTECTION MESH

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GPM PRODUCT
BROCHURE

PAGE 7
PRODUCT
SPECIFICATION



GRASS PROTECTION MESH (GPM) GRASS/TURF REINFORCEMENT

Geo Products GPM, Grass Protection Mesh is a flexible ground protection mat designed to be unrolled directly atop the surface to provide erosion control and reinforcement for temporary and permanent use in grassy, high-traffic areas.



Manufactured with high-quality products, Geo Products grass protection mesh is both lightweight and non-toxic, providing a simple and sustainable installation process.

- Manufactured in the USA
- UV Stabilization
- Promotes Drainage and Grass Growth
- Quick and Simple Installation, Immediate Use
- Reusable and Made with Recyclable Materials

By protecting the surface from rutting, Geo Products GPM makes erosion-prone areas more accessible, while still upholding a natural appearance. GPM is used in residential and commercial applications where additional reinforcement is needed to support vegetation.

- Overflow / Event Parking
- Slope Erosion Support
- Driveways / Access Roads
- Athletic / Recreational Facilities
- ATV/Golf Cart Paths
- RV, Trailer, or Boat Storage Lanes

PRODUCT DIMENSIONS

Geo Products GPM is offered in a medium and heavy grade option, both packaged in 6.58' rolls.



MEDIUM GRADE 0.42" Thick

- Roll Width: 6.58'
- Roll Length: 50'
- Roll Coverage: 329sf
- Roll Weight: 76lbs

HEAVY GRADE 0.54" Thick

- Roll Width: 6.58'
- Roll Length: 66'
- Roll Coverage: 435sf
- Roll Weight: 160lbs

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PRODUCT SPECIFICATIONS

GRASS PROTECTION MESH (GPM)



Geo Products GPM, Grass Protection Mesh is a flexible, ground protection mat designed to be unrolled directly atop the surface to provide erosion control and reinforcement for temporary and permanent use in grassy, high-traffic areas. Grass Protection Mesh is manufactured in a medium and heavy grade option, to best suit the specifications of the project.

PACKAGING

ROLL WEIGHT DIMENSIONS

Product	Roll Width feet (m)	Roll Length feet (m)	Roll Coverage sf (m2)	Roll Weight (lbs)	Unit Weight (lbs/sf)	Unit Thickness (inches)
Medium Grade	6.58 (2.0m)	50 (15.24)	329 (30.57)	76	0.23	0.42"
Heavy Grade	6.58 (2.00m)	66 (20.12)	435 (40.41)	160	0.37	0.54"

PHYSICAL PROPERTIES

DIRECT MEASUREMENT

Medium & Heavy Grade	POLYMER TYPE	COLOR	STRUCTURE	UV PROTECTION
	HDPE + EVA	GREEN	RHOMBODIAL	YES

TECHNICAL CHARACTERISTICS

TEST METHODS

MEASUREMENT	Product	TEST METHOD	UNITS	MD VALUES
TENSILE STRENGTH	Medium Grade	ISO 10319	LBS/FT	475
	Heavy Grade		LBS/FT	850
STRAIN AT MAX TENSILE LOAD	Medium Grade	ISO 10319	%	20
	Heavy Grade			

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INTEGRATED GEOSYNTHETIC SOLUTIONS

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