



# GEOCELLS PRODUCT DATA

Photograph courtesy Presto

## FOR MORE INFORMATION

*Geosynthetics* magazine has provided information on the geocell specification charts for comparative purposes only. Designers should contact manufacturers for additional details and to discuss site-specific considerations.

Information on the use and specification of geocells is also available from the Geosynthetic Materials Association (GMA).

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## PUBLISHER'S NOTE

*Geosynthetics* magazine compiled all information included in the *Geosynthetics 2019 Specifier's Guide* from information submitted by firms in the geosynthetics industry. Companies provided specifications voluntarily, and specification accuracy is the responsibility of the manufacturer. The appearance of a listing in this directory is not an endorsement of the company or product by *Geosynthetics* magazine or the Industrial Fabrics Association International (IFAI). The *Geosynthetics 2019 Specifier's Guide* is intended as a guide, and *Geosynthetics* magazine and IFAI encourage readers to contact the companies listed for further information.

Companies engineer geocells for protection and stabilization applications. Engineers often use them to improve the performance of standard construction materials and erosion control treatments.

**G**eoce cell products are three-dimensional, expandable panels made from high-density polyethylene (HDPE), polyester or another polymer material. When expanded during installation, the interconnected strips form the walls of a flexible, three-dimensional cellular structure into which specified infill materials are placed and compacted. This creates a free-draining system that holds infill materials in place and prevents mass movements by providing confinement through tensile reinforcement. Cellular confinement systems improve the structural and functional behavior of soils and aggregate infill materials.

## Development

Geocell products were developed in the late 1970s and early 1980s. The primary geocell applications include:

- Protection and stabilization of steep slope surfaces
- Protective linings of channels and hydraulic structures
- Static and dynamic load support on weak subgrade soils
- Multilayered earth-retaining and water-retaining gravity structures

Infill selection is primarily governed by the nature and intensity of anticipated working stresses, the availability and cost of candidate materials, and, in some instances, the aesthetic requirements for a fully vegetated appearance. Basic geocell infill types are aggregates, vegetated topsoil and concrete.

## The numbers

Companies that submitted product data chart lines were asked to provide data determined through industry-accepted testing methods. Companies signed a certificate of compliance verifying the accuracy of this data.

# GEOCELLS

Product Name	Polymer Type	Color	Dimensional Properties					Minimum Cell Seam Peel Strength kN (lb)	Manufacturer's Suggested Applications [7]
			Cell (expanded)			Geocell Section			
			Area cm <sup>2</sup> (in <sup>2</sup> )	Depth mm (in)	Length mm (in)	Length m (ft)	Width m (ft)		
<b>Geo Products LLC dba EnviroGrid</b>   <a href="http://www.geoproducts.org">www.geoproducts.org</a>									
<b>Envirogrid EGA20 [2]</b>	HDPE	Black, green, tan or special	289 (44.8)	75 (3), 100 (4), 125 (5), 150 (6), 200 (8), 250 (10), 300 (12)	224 (8.8)	6.52 (21.4)	2.56 (8.4)	1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.55 (800), 4.26 (960)	All
<b>Envirogrid EGA30 [2]</b>	HDPE	Black, green, tan or special	460 (71.3)	75 (3), 100 (4), 125 (5), 150 (6), 200 (8), 250 (10), 300 (12)	287 (11.3)	8.35 (27.4)	2.56 (8.4)	1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.55 (800), 4.26 (960)	All
<b>Envirogrid EGA40 [2]</b>	HDPE	Black, green, tan or special	1206 (187)	75 (3), 100 (4), 125 (5), 150 (6), 200 (8), 250 (10), 300 (12)	475 (18.7)	13.72 (45)	2.56 (8.4)	1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.55 (800), 4.26 (960)	All
<b>Hanes Geo Components</b>   <a href="http://www.hanesgeo.com">www.hanesgeo.com</a>									
<b>TerraCell 140 [2]</b>	HDPE	Black, tan, green or custom	289 (44.8)	75, 100, 150, 200 (3, 4, 6, 8)	224 (8.8)	6.52 (21.4) <sup>6</sup>	2.56 (8.4)	1.065, 1.42, 2.13, 2.84 (240, 320, 480, 640)	All
↔ Custom lengths available									
<b>HUITEX</b>   <a href="http://www.huitex.com">www.huitex.com</a>									
<b>Huitex GC,GT [2]</b>	HDPE	Black	495 (77)~2423 (376)	50 (2.0)~200 (7.9)	244 (9.6)~510 (20.1)	6.1 (20)~12.2 (40)	2.44 (8)	0.5 (110)~2 (440)	SP, CP, ER, LS, EC, ST.

[1] Per U.S. Army Corps of Engineers Technical Report GL-86-19; Appendix A specifies 2000 N (450 lbf) for 200 mm (8 in) depth.

[2] Perforated or non-perforated

[3] Manufacturing Process ISO 9002 certified

[4] Five sections available covering full range of lengths

[5] Quality system ISO 9001:2000 certified

[6] Standard and big cell available on request

[7] CP = Channel protection

CL = Channel lining

EC = Erosion control

ER = Earth retention

LS = Load support

RW = Retaining walls

SP = Slope protection

ST = Stabilization

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			Cell (expanded)			Geocell Section			
			Area cm <sup>2</sup> (in <sup>2</sup> )	Depth mm (in)	Length mm (in)	Length m (ft)	Width m (ft)		
<b>Presto Geosystems   <a href="http://www.prestogeo.com">www.prestogeo.com</a></b>									
Geoweb GW20V [2]	HDPE	Black, green, tan or special	289 (44.8)	75 (3)	224 (8.8) nominal ± 10%	3.7-8.3 [4] (12-27)	2.6 (8.5) nominal ± 10%	1.06 (240)	SP, CP
Geoweb GW20V [2]	HDPE	Black, green, tan or special	289 (44.8)	100 (4)	224 (8.8) nominal ± 10%	3.7-8.3 [4] (12-27)	2.6 (8.5) nominal ± 10%	1.42 (320)	SP, CP, LS
Geoweb GW20V [2]	HDPE	Black, green, tan or special	289 (44.8)	150 (6)	224 (8.8) nominal ± 10%	3.7-8.3 [4] (12-27)	2.6 (8.5) nominal ± 10%	2.13 (480)	SP, CP, LS
Geoweb GW20V [2]	HDPE	Black, green, tan or special	289 (44.8)	200 (8)	224 (8.8) nominal ± 10%	3.7-8.3 [4] (12-27)	2.6 (8.5) nominal ± 10%	2.84 (640)	SP, CP, LS
Geoweb GW30V [2]	HDPE	Black, green, tan or special	460 (71.3)	75 (3)	287 (11.3) nominal ± 10%	4.7-10.7 [4] (15-35)	2.6 (8.4) nominal ± 10%	1.06 (240)	SP, CP, LS
Geoweb GW30V [2]	HDPE	Black, green, tan or special	460 (71.3)	100 (4)	287 (11.3) nominal ± 10%	4.7-10.7 [4] (15-35)	2.6 (8.4) nominal ± 10%	1.42 (320)	SP, CP, LS
Geoweb GW30V [2]	HDPE	Black, green, tan or special	460 (71.3)	150 (6)	287 (11.3) nominal ± 10%	4.7-10.7 [4] (15-35)	2.6 (8.4) nominal ± 10%	2.13 (480)	SP, CP, LS
Geoweb GW30V [2]	HDPE	Black, green, tan or special	460 (71.3)	200 (8)	287 (11.3) nominal ± 10%	4.7-10.7 [4] (15-35)	2.6 (8.4) nominal ± 10%	2.84 (640)	SP, CP, LS
Geoweb GW30V [2]	HDPE	Black, green, tan or special	460 (71.3)	150 (6)	267 (10.5) nominal ± 10%	per design	2.6 (8.67) nominal ± 10%	2.13 (480)	ER
Geoweb GW40V [2]	HDPE	Black, green, tan or special	1206 (187.0)	75 (3)	475 (18.7) nominal ± 10%	7.7-17.8 [4] (25-58)	2.5 (8.3) nominal ± 10%	1.06 (240)	SP, CP
Geoweb GW40V [2]	HDPE	Black, green, tan or special	1206 (187.0)	100 (4)	475 (18.7) nominal ± 10%	7.7-17.8 [4] (25-58)	2.5 (8.3) nominal ± 10%	1.42 (320)	SP, CP
Geoweb GW40V [2]	HDPE	Black, green, tan or special	1206 (187.0)	150 (6)	475 (18.7) nominal ± 10%	7.7-17.8 [4] (25-58)	2.5 (8.3) nominal ± 10%	2.13 (480)	SP, CP
Geoweb GW40V [2]	HDPE	Black, green, tan or special	1206 (187.0)	200 (8)	475 (18.7) nominal ± 10%	7.7-17.8 [4] (25-58)	2.5 (8.3) nominal ± 10%	2.84 (640)	SP, CP

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<b>Strata Systems Inc., dba StrataWeb</b>   <a href="http://www.geogrid.com">www.geogrid.com</a>									
<b>StrataWeb 356</b>	HDPE	Black or special	289 (44.8)	75 (3), 100 (4), 150 (6), 200 (8)	224 (8.8)	6.52 (21.4)	2.56 (8.4)	1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)	All
<b>StrataWeb 445</b>	HDPE	Black or special	460 (71.3)	75 (3), 100 (4), 150 (6), 200 (8)	287 (11.3)	8.35 (27.4)	2.56 (8.4)	1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)	All
<b>StrataWeb 712</b>	HDPE	Black or special	1206 (187)	75 (3), 100 (4), 150 (6), 200 (8)	475 (18.7)	13.72 (45)	2.56 (8.4)	1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)	All
<b>TechFab India</b>   <a href="http://www.techfabindia.com">www.techfabindia.com</a>									
<b>TECHCELL TC356</b>	HDPE blend	Black	289 (44.8)	150 (5.9)	224 (8.80)	6.5 (21.33)	2.59 (8.5)	2.13 (480) <sup>5</sup>	Road ways, Railways, Steep soil reinforcement, Reservoirs, Channel protection, Land fill areas
↳ EN ISO 13426:1:Method - B									
<b>Typar Geosynthetics</b>   <a href="http://www.typargeosynthetics.com">www.typargeosynthetics.com</a>									
<b>Typar Geocells DC2</b>	PP	Tan	2918.6 (452.4)	500 (20)	609.6 (24)	5.0 (16.4)	1.37 (4.5)	2 (400)	All
<b>Typar Geocells DC3</b>	PP	Tan	2918.6 (452.4)	500 (20)	609.6 (24)	5.0 (16.4)	1.6 (5.3)	2 (400)	All
<b>Typar Geocells DC4</b>	PP	Tan	2918.6 (452.4)	501 (20)	609.6 (24)	5.0 (16.4)	2.5 (8.0)	3 (400)	All
<b>Typar Geocells GS 250/150</b>	PP-PE	Dark grey	795 (123)	150 (6)	295 (11.6)	5.0 (16.4)	7.0 (23)	10 (2248)	All
<b>Typar Geocells GS 250/100</b>	PP-PE	Dark grey	795 (123)	100 (4)	295 (11.6)	5.0 (16.4)	7.0 (23)	10 (2248)	All
<b>Typar Geocells GS 350/150</b>	PP-PE	Dark grey	1503 (233)	150 (6)	415 (16.3)	5.0 (16.4)	7.0 (23)	10 (2248)	All
<b>Typar Geocells GS 350/100</b>	PP-PE	Dark grey	1503 (233)	100 (4)	415 (16.3)	5.0 (16.4)	7.0 (23)	10 (2248)	All
<b>Typar Geocells GS 220/200</b>	PP-PE	Dark grey	700 (109)	200 (8)	275 (10.8)	6.0 (19.7)	3.0 (9.9)	10 (2248)	All

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