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

Geocell 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.
### Geo Products LLC dba EnviroGrid  [www.geoproducts.org](http://www.geoproducts.org)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Polymer Type</th>
<th>Color</th>
<th>Cell (expanded)</th>
<th>Geocell Section</th>
<th>Minimum Cell Seam Peel Strength</th>
<th>Manufacturer's Suggested Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Envirogrid EGA20 [2]</strong></td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>289 (44.8)</td>
<td>224 (8.8)</td>
<td>1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.53 (800), 4.26 (960)</td>
<td>All</td>
</tr>
<tr>
<td><strong>Envirogrid EGA30 [2]</strong></td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>287 (11.3)</td>
<td>1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.53 (800), 4.26 (960)</td>
<td>All</td>
</tr>
<tr>
<td><strong>Envirogrid EGA40 [2]</strong></td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>1206 (187)</td>
<td>475 (18.7)</td>
<td>1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.53 (800), 4.26 (960)</td>
<td>All</td>
</tr>
</tbody>
</table>

### Hanes Geo Components  [www.hanesgeo.com](http://www.hanesgeo.com)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Polymer Type</th>
<th>Color</th>
<th>Cell (expanded)</th>
<th>Geocell Section</th>
<th>Minimum Cell Seam Peel Strength</th>
<th>Manufacturer's Suggested Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TerraCell 140 [2]</strong></td>
<td>HDPE</td>
<td>Black, tan, green or custom</td>
<td>289 (44.8)</td>
<td>224 (8.8)</td>
<td>1.065 (240), 1.42 (320), 1.775 (400), 2.13 (480), 2.84 (640), 3.53 (800), 4.26 (960)</td>
<td>All</td>
</tr>
</tbody>
</table>

*Custom lengths available

### HUITEX  [www.huitex.com](http://www.huitex.com)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Polymer Type</th>
<th>Color</th>
<th>Cell (expanded)</th>
<th>Geocell Section</th>
<th>Minimum Cell Seam Peel Strength</th>
<th>Manufacturer's Suggested Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Huitex GC,GT [2]</strong></td>
<td>HDPE</td>
<td>Black</td>
<td>495 (77)–2423 (376)</td>
<td>244 (9.6)–510 (20.1)</td>
<td>2.44 (8)</td>
<td>0.5 (110)–2 (440)</td>
</tr>
</tbody>
</table>

### Notes:

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
   LS = Load support
   CL = Channel lining
   RW = Retaining walls
   ER = Earth retention
   SP = Slope protection
   ST = Stabilization

« Geosynthetics recommends you contact the manufacturers before making any specifying/purchasing decisions »
<table>
<thead>
<tr>
<th>Product Name</th>
<th>Polymer Type</th>
<th>Color</th>
<th>Area cm² (in²)</th>
<th>Depth mm (in)</th>
<th>Length mm (in)</th>
<th>Length m (ft)</th>
<th>Width m (ft)</th>
<th>Minimum Cell Peel Strength kN (lb)</th>
<th>Manufacturer’s Suggested Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geoweb GW20V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>289 (44.8)</td>
<td>75 (3)</td>
<td>224 (8.8) nominal ± 10%</td>
<td>3.7-8.3 (4) (12-27)</td>
<td>2.6 (8.5) nominal ± 10%</td>
<td>1.06 (240)</td>
<td>SP, CP</td>
</tr>
<tr>
<td>Geoweb GW20V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>289 (44.8)</td>
<td>100 (4)</td>
<td>224 (8.8) nominal ± 10%</td>
<td>3.7-8.3 (4) (12-27)</td>
<td>2.6 (8.5) nominal ± 10%</td>
<td>1.42 (320)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW20V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>289 (44.8)</td>
<td>150 (6)</td>
<td>224 (8.8) nominal ± 10%</td>
<td>3.7-8.3 (4) (12-27)</td>
<td>2.6 (8.5) nominal ± 10%</td>
<td>2.13 (480)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW20V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>289 (44.8)</td>
<td>200 (8)</td>
<td>224 (8.8) nominal ± 10%</td>
<td>3.7-8.3 (4) (12-27)</td>
<td>2.6 (8.5) nominal ± 10%</td>
<td>2.84 (640)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW30V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>75 (3)</td>
<td>287 (11.3) nominal ± 10%</td>
<td>4.7-10.7 (4) (15-35)</td>
<td>2.6 (8.4) nominal ± 10%</td>
<td>1.06 (240)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW30V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>100 (4)</td>
<td>287 (11.3) nominal ± 10%</td>
<td>4.7-10.7 (4) (15-35)</td>
<td>2.6 (8.4) nominal ± 10%</td>
<td>1.42 (320)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW30V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>150 (6)</td>
<td>287 (11.3) nominal ± 10%</td>
<td>4.7-10.7 (4) (15-35)</td>
<td>2.6 (8.4) nominal ± 10%</td>
<td>2.13 (480)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW30V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>200 (8)</td>
<td>287 (11.3) nominal ± 10%</td>
<td>4.7-10.7 (4) (15-35)</td>
<td>2.6 (8.4) nominal ± 10%</td>
<td>2.84 (640)</td>
<td>SP, CP, LS</td>
</tr>
<tr>
<td>Geoweb GW30V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>460 (71.3)</td>
<td>150 (6)</td>
<td>267 (10.5) nominal ± 10%</td>
<td>per design</td>
<td>2.6 (8.67) nominal ± 10%</td>
<td>2.13 (480)</td>
<td>ER</td>
</tr>
<tr>
<td>Geoweb GW40V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>1206 (187.0)</td>
<td>75 (3)</td>
<td>475 (18.7) nominal ± 10%</td>
<td>7.7-17.8 (4) (25-58)</td>
<td>2.5 (8.3) nominal ± 10%</td>
<td>1.06 (240)</td>
<td>SP, CP</td>
</tr>
<tr>
<td>Geoweb GW40V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>1206 (187.0)</td>
<td>100 (4)</td>
<td>475 (18.7) nominal ± 10%</td>
<td>7.7-17.8 (4) (25-58)</td>
<td>2.5 (8.3) nominal ± 10%</td>
<td>1.42 (320)</td>
<td>SP, CP</td>
</tr>
<tr>
<td>Geoweb GW40V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>1206 (187.0)</td>
<td>150 (6)</td>
<td>475 (18.7) nominal ± 10%</td>
<td>7.7-17.8 (4) (25-58)</td>
<td>2.5 (8.3) nominal ± 10%</td>
<td>2.13 (480)</td>
<td>SP, CP</td>
</tr>
<tr>
<td>Geoweb GW40V [2]</td>
<td>HDPE</td>
<td>Black, green, tan or special</td>
<td>1206 (187.0)</td>
<td>200 (8)</td>
<td>475 (18.7) nominal ± 10%</td>
<td>7.7-17.8 (4) (25-58)</td>
<td>2.5 (8.3) nominal ± 10%</td>
<td>2.84 (640)</td>
<td>SP, CP</td>
</tr>
</tbody>
</table>

[2] Perforated or non-perforated
[4] Five sections available covering full range of lengths
[6] Standard and big cell available on request
[7] CP = Channel protection
CL = Channel lining
DC = Erosion control
ER = Earth retention
LS = Load support
MW = Retaining walls
SP = Slope protection
ST = Stabilization

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www.GeosyntheticsMagazine.com
### GEOCELLS

#### Strata Systems Inc., dba StrataWeb
- **StrataWeb 356**
  - Polymer Type: HDPE
  - Color: Black or special
  - Area: 289 (44.8)
  - Depth: 75 (3), 100 (4), 150 (6), 200 (8)
  - Length: 224 (8.8)
  - Cell Peel Strength: 1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)
- **StrataWeb 445**
  - Polymer Type: HDPE
  - Color: Black or special
  - Area: 460 (71.3)
  - Depth: 75 (3), 100 (4), 150 (6), 200 (8)
  - Length: 287 (11.3)
  - Cell Peel Strength: 1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)
- **StrataWeb 712**
  - Polymer Type: HDPE
  - Color: Black or special
  - Area: 1206 (187)
  - Depth: 75 (3), 100 (4), 150 (6), 200 (8)
  - Length: 475 (18.7)
  - Cell Peel Strength: 1.065 (240), 1.42 (320), 2.13 (480), 2.84 (640)

#### TechFab India
- **TECHCELL TC356**
  - Polymer Type: HDPE blend
  - Color: Black
  - Area: 289 (44.8)
  - Depth: 150 (5.9)
  - Length: 224 (8.80)
  - Cell Peel Strength: 6.5 (21.33)
  - Manufacturer's Suggested Applications: Roadways, Railways, Steep soil reinforcement, Reservoirs, Channel protection, Landfill areas

#### Typar Geosynthetics
- **Typar Geocells DC2**
  - Polymer Type: PP
  - Color: Tan
  - Area: 2918.6 (452.4)
  - Depth: 500 (20)
  - Length: 609.6 (24)
  - Cell Peel Strength: 5.0 (16.4)
  - Manufacturer’s Suggested Applications: All
- **Typar Geocells DC3**
  - Polymer Type: PP
  - Color: Tan
  - Area: 2918.6 (452.4)
  - Depth: 500 (20)
  - Length: 609.6 (24)
  - Cell Peel Strength: 5.0 (16.4)
  - Manufacturer’s Suggested Applications: All
- **Typar Geocells DC4**
  - Polymer Type: PP
  - Color: Tan
  - Area: 2918.6 (452.4)
  - Depth: 501 (20)
  - Length: 609.6 (24)
  - Cell Peel Strength: 5.0 (16.4)
  - Manufacturer’s Suggested Applications: All

#### Manufacturer's Suggested Applications
- CP = Channel protection
- LS = Load support
- RW = Retaining walls
- EC = Erosion control
- SP = Slope protection
- ST = Stabilization