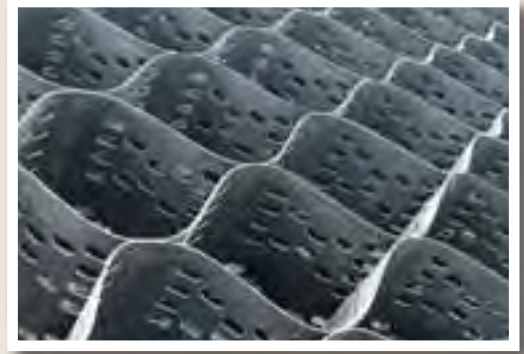


GEOCELL



Cellular geosynthetic for retention of soil on slopes.

What is Geocell?

The Permathene Geocell is an innovative erosion and sediment control product that provides cost effective solutions for ground stabilisation, erosion control and earth retention.

Permathene Geocell is a lightweight and flexible cellular structure made of polyethylene strips which are ultrasonically bonded together to form an extremely strong configuration. Permathene Geocell System can be filled with a wide range of material: aggregate, concrete, sand, soil, etc.

Applications

- Erosion Control
- Slope Protection
- Retaining Wall
- Load Support
- Channel Protection
- Ground Stabilisation

■ Slope Protection Applications:

- ▶ Most slope protection applications utilise 10 cm (4 in) depth, standard cell sections. However, this is a function of (1) the potential minimum angle of repose (fiction angle) of the infill material, (2) the slope inclination, (3) the slope length of the individual cell, (4) the depth of the cell, and (5) the characteristics of the infill material.
- ▶ Cell size is governed by slope geometry and design cover thickness.
- ▶ Steep slopes must have global stability or be internally reinforced before application of the geocell system. The single-layer geocell system has been used on slopes as steep as 75 degrees.
- ▶ Anchor methods used to secure the geocell system to a slope include wood stakes, metal J-pins, and other earth / tension anchors.
- ▶ Generally sections are connected to prevent relative movement of sections during the infilling operation using rivets or heavy-duty metal staples applied with a pneumatic stapler. A variety of rivets/ staples are available to meet site environmental conditions.

■ Advantages of the Perforated Cells:

- ▶ In load support applications, a high degree of frictional interaction is developed between the aggregate infill and the cell wall that directly increases the stiffness of the system by reducing the ability of a shear plane developing between the infill and the cell wall.
- ▶ In all application areas, the perforations allow water to move from cell to cell reducing undesirable cell ponding and providing lateral drainage.
- ▶ In vegetated slope and channel protection systems, roots can grow through the perforations increasing the stability of the vegetated cover when subjected to gravitational and hydrodynamic forces.

GEOCELL PHYSICAL PROPERTIES

MATERIAL SEAM PROPERTIES	Test Method	Value
Material		High Density Polyethylene
Standard colour		black
Sheet thickness (mm) Textured	ASTM D5199	1.5±15%
Sheet thickness (mm) Smooth	ASTM D5199	1.2±10% / -5%
Density (g/cm)	ASTM D792	> 0.94
Carbon black content (%)	ASTM D1603	>2
Oxidative induction time (min)	ASTM D3895	>100
Low Temp brittleness (C°)	ASTM D746	< 77
Environment stress crack resistance (h)	ASTM D1693	>4000
Seam Peel strength (N/100 mm depth cell)	COE GL-86-19	<1000
Seam hang strength (days)	HKCTM	Per 100mm seam shall sustain 72.5kg weight for at least 7 days, undergoing the variances from room temp to 53C° on one hour cycle.

GEOCELL SIZES (Smooth and Textured)

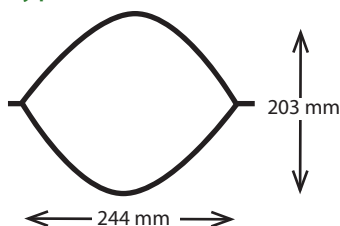
PRODUCT	50A	75A	100A	150A	200A	50B	75B	100B	150B	200B
Sheet Length (m)	3.36									
Bonded Ranges (mm)	330±2.5					660±2.5				
Cell depth (mm)	50	75	100	150	200	50	75	100	150	200
Extended cell size (mm)	244(W) x 203(L)					488(W) x 406(L)				
Cells per section	300					150				
Expanded section size (m)	2.44(W) x 6.1(L)					244(W) x 12.2(L)				
Expanded section area (m ²)	15±1					30±1				
Section weight Textured (kg)	15	23	30	45	50	15	23	30	45	60
Section weight Smooth (kg)	12	18	24	36	48	12	18	24	36	48

■ Size Selection:

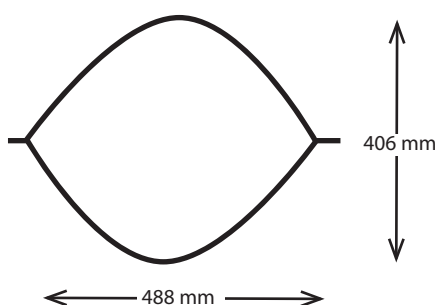
- ▶ A cell (244 mm x 203 mm) is applicable for more severe conditions, and the B cell (488mm x 406mm) is applicable for mild conditions.

Geocell is made from premium high density polyethylene for geotechnical applications. It is a 3-dimensional cellular confinement system available in smooth and textured and in two open cell sizes:

Type A (each cell) dimensions: 203 mm x 244 mm



Type B (each cell) dimensions: 406 mm x 488 mm



Disclaimer

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

Except when agreed to in working conditions of use, no warranty expressed or implied is made regarding the performance of any product, since the manner of use and handling is beyond our control.