



polyfabrics
a u s t r a l i a



*We're celebrating
20 years of business*



TerraStop™ Geocell

Erosion Control

POLYFABRICS AUSTRALIA PTY LTD | ABN. 12 009 223 278 | W. www.polyfabrics.com.au
NEW SOUTH WALES: A. 5 FROST RD, CAMPBELLTOWN NSW 2560 | T. (02) 4627 6444 | F. (02) 4627 6488
QUEENSLAND: A. UNIT 1A 74-76 MAGNESIUM DRIVE, CRESTMEAD QLD 4132 | T. (07) 3278 5888 | F. (07) 3278 5855



TerraStop™ Geocell

TerraStop™ Geocell is a 3 dimensional expandable cellular confinement system of various depths made from HDPE. It is used to confine various infill's and provide stability on slopes and channels.

Physical Properties		Test Method				Unit				Test Value			
Material		HDPE											
Colour		Black											
Minimum Polymer Density		ASTM D792				g/cm ³				> 0.94			
Environmental Stress Crack Resistance		ASTM D1693				hrs				> 5000			
Seam Peel strength		COE GL-86-19, Appendix A				N/100mm depth cell				> 1420			
Carbon Black		ASTM D1603				%				> 2			
Sheet Thickness Smooth		ASTM D5199				mm				1.2 + or - 10%			
Sheet Thickness Textured		ASTM D5199				mm				1.5 + or - 15%			
Sizes	Units	GC75-330	GC100-330	GC150-330	GC200-330	GC75-440	GC100-440	GC150-440	GC200-440	GC75-660	GC100-660	GC150-660	GC200-660
Cell depth	mm	75	100	150	200	75	100	150	200	75	100	150	200
Bonded range	mm	330 + -2.5				440 + -2.5				660 + -2.5			
Extended cell size	mm	244(W) x 203(L)				325(W) x 271(L)				488(W) x 406(L)			
Cells per section		600				450				300			
Expanded section size	m	4.88(W) x 6.1(L)				4.88(W) x 8.2(L)				4.88(W) x 12.2(L)			
Expanded section area	m ²	30 + -1				40 + -1				60 + -1			
Section weight	kg	36	48	72	96	36	48	72	96	36	48	72	96

Installation

The procedure for the installation of TerraStop™ Geocell on slopes is as follows:

- Site preparation:** Shape and compact subgrade to the required profile.
- Placement of the geocell panels:** Expand Geocell panels to the full open dimension, parallel to the slope direction. Each panel shall be first anchored at the top of the slope in a predetermined trench. Along the slope the geocell shall be fixed with pins. The spacing between the pins, the diameter and length will depend on the slope angle, soil characteristics and loading. Pins placed in a staggered pattern.
- Joining panels:** Panels joined by pins, one pin every 2-4 cells. Alternatively cells can be stapled.
- Infill:** Infill in the geocell is influenced by hydraulics, soil conditions, and aesthetics. The TerraStop™ Geocell can accommodate a variety of infill's and finishes such as soil, gravel, concrete etc. To prevent possible damage to the Geocell, limit the drop height of infill's to less than one metre.
- Finishing:** Soil infills can be preseeded or spray mulched. Preseeded areas can be protected with synthetic or natural fibre products such as TecMat™ Jute or Coir.

Design Consideration

- Anchorage at top:** If insufficient anchorage at the top, the only resistance is the fixing pins. Localised stresses transmitted by the pins to the junctions (particularly the upper cell junctions) may break the weld junctions. The surrounding cells then open, thus reducing soil confinement; then localised erosion may occur. This can be avoided by increasing the number of pins.
- Anchorage at toe:** Important to fix the lower cells in a base trench or by pins to minimise soil loss.
- Intense surface runoff:** Avoid intense surface water runoff to minimise intercellular erosion. This can be eliminated by diverting the surface runoff with a V-channel prior to reaching the embankment or by using various erosion control mats.
- Insufficient pins:** If insufficient number of pins used or placed incorrectly, localised stress transmitted by the pins to the weld junctions can cause failure. The failure of a junction transmits the over-stress to the adjacent junction, thus producing a progressive failure.

Consult Polyfabrics Australia Pty Ltd or a certified Engineer for site specific installation instructions.