

# GEOWEB® SLOPE AND CHANNEL PROTECTION

Geoweb® geocells are an economical solution for erosion control. The 3-dimensional Geoweb structure holds the upper soil layer on the slope and prevents washout from water action or other erosive forces. In sandy soils, subject to wind erosion, the Geoweb® system helps retain soils until vegetation has a chance to establish itself. On steeper slopes, the Geoweb® system can help to hold embankment soils in place.

December 2011		<b>Geoweb®</b>	
Cell Size	Units	<b>GW20V</b>	<b>GW30V</b>
Material Thickness	mil/mm	50 /1.27	50 /1.27
Polymer Density (ASTM D 1505)	lbs/ft <sup>3</sup> g/cm <sup>3</sup>	58.4 -60.2 0.935 - 0.965	58.4 - 60.2 0.935 - 0.965
Nominal Dimension (one cell)	in mm	8.8 x 10.2 224 x 259	11.3 x 12.6 287 x 320
Section Length (min to max)	ft m	12.0 to 27.3 3.7 to 8.3	15.4 to 35.1 4.7 to 10.7
Section Width (min to max)	ft m	7.7 to 9.2 2.3 to 2.8	
Connection Material		Polyethylene ATRA Key	
Carbon Black Content	%	1.5 - 2 by weight	
Min. ESCR (ASTM 1693)	hr	5000	
<i>Note: All styles available in 3 in, 4in, 6in and 8in depths. ATRA Anchors and Geosynthetic tendons are also available. Contact Layfield for details.</i>			

December 2011		<b>Geoweb® Seam Properties</b>			
Cell Height	Units	<b>3"</b>	<b>4"</b>	<b>6"</b>	<b>8"</b>
Minimum Seam Strength	lb/N	240/1060	320/1420	480/2130	640/2840

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December 2011		Geoweb® Accessories	
Product	Material	Nominal Diameter	Break Strength
<b>Tendons</b>			
TP-67 <sup>1</sup>	PET	16 mm	6.70 kN
TP-93 <sup>1</sup>	PET	19 mm	9.30 kN
TK-89	Kevlar Aramid	10 mm	8.9 kN
TK-133	Kevlar Aramid	16 mm	13.34 kN
TK-178	Kevlar Aramid	19 mm	17.8 kN
<b>Other Materials</b>			
Atra Key	Polyethylene	--	
Atra Anchors <sup>2</sup>	GFRP	12.7 mm	
Atra Clips	Polyethylene	25 mm	
<sup>1</sup> PET = Polyester, all PET and Kevlar tendons above are woven material <sup>2</sup> GFRP Anchor (Stake) Break strength shown is compressive strength as per ASTM D638. All other strengths shown above are tensile. GFRP Atra Anchors are supplied assembled complete with AtraClip inserted on GFRP rod			

Material Properties

## Installation

There are multiple methods of installing Geoweb which will depend mainly on the application. The two primary anchorage methods when installing Geoweb on a slope are Atra Anchors (stakes) and /or tendons connected to a deadman pipe at the crest. When using Atra anchors (typically GFRP rods or 10M rebar with a special Atra Clip on top), pre-cut the anchors to the design length and push them into the slope at 90 degrees to the slope at the required spacing. The installation can be accomplished using sledge hammers or with the Hilti Atra® Driver System (The Hilti Atra® Driver System can increase productivity by up to 400%). When using tendons, the tendons are pre-threaded through the pre-cut slots in the Geoweb and knotted at Atra Clips within the Geoweb cells at specified intervals down the slope. The Geoweb cells are then filled with the designated backfill (topsoil, gravel, or concrete) and may be covered with an erosion blanket.

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