

Geoweb® System		PERMANENT PROTECTION OF EARTH-FILL SLOPES		
		Recommended Material Types	Applications, Functions, Benefits and Design Considerations	
The Geoweb® Section	Section Length	Six section lengths (covering a range of 12 to 58 ft lengths)	Range of section lengths minimizes field cutting of sections, loss of area and installation effort.	
	Cell Size	Mid (GW30V), Small (GW20V) or Large (GW40V)	Cell size is governed by slope geometry and design cover thickness. Generally, the GW30V cell is applicable for most conditions, the GW20V cell is applicable for very severe conditions, and the GW40V cell is applicable for mild conditions.	
	Cell Depth	3, 4, 6, 8 in (75, 100, 150, 200 mm)	Depth is a function of slope geometry.	
	Cell Type	Textured Perforated	Maximized interaction between infill and cellular structure. Perforated cells provide in-plane drainage and inter-cell root development where necessary.	
	Cell Color	Standard Black	Material is primarily buried – standard stabilization is incorporated	
The Infill	Topsoil & Vegetation	Local soils and vegetation	Structural restraint of topsoil cover on steep slopes. Cellular system confines and protects the upper soil layer and root zone when subjected to concentrated hydraulic flow. The development of rills and gullies is prevented. The cellular structure enhances moisture retention and vegetative development in arid climates.	
	Aggregate	Gravels and uniform processed rock	Loose infills can be supported at slope angles greater than their normal angle of repose. Resistance to concentrated surface flows is increased.	
	Concrete	Ready-mix	The Geoweb system functions as a flexible formwork and anchorage system. The hard protective cover is flexible, free-draining, and can be rapidly installed or precast in panels.	
Other Components (as required)	Geosynthetics	Geotextiles	Non-woven	Light-weight non-woven underlayer acts as a drainage medium, soil filter and root-anchorage element.
		Geomembranes	Polymeric or GCL's	Can be employed selectively as infiltration control elements.
	Erosion Control Blankets	Temporary bio-degradable	Protects topsoil and seed immediately following installation and provides protection from washout potential prior to vegetation establishment.	
	Turf Reinforcement Mats	Various	More permanent protection of topsoil and seed following installation, and provides protection from washout potential prior to vegetation establishment and longer-term surface flows.	

	Tendons	Kevlar®, PP and PE	Polymer type and design tensile strength depends on geometry, anchorage design and chemical environment.
	The ATRA® Clip/Anchor	ATRA® Clip	Attached to tendons, provides positive transfer of sliding loads to the tendon system.
		ATRA® Anchor	Attached to steel rods, provides positive shear connection and uplift resistance. Anchors resist high hydraulic shear stresses. Project-specific assessment is recommended.
		ATRA® GFRP Anchor	Attached to glass fiber-reinforced polymer stakes, provides positive shear connection and uplift resistance for corrosive environments. Anchors resist high hydraulic shear stresses. Project-specific assessment is recommended.
Surface Treatments	Various	Application specific including: hydroseeding, emulsion coating, cement grouts, etc.	

<b>Geoweb® System</b>		<b>PROTECTION OF GEOMEMBRANE COVERED SLOPES</b>	
		<b>Recommended Material Types</b>	<b>Applications, Functions, Benefits and Design Considerations</b>
<b>The Geoweb® Section</b>	Section Length	Six section lengths (covering a range of 12 to 58 ft lengths)	Range of section lengths minimizes field cutting of sections, loss of area and installation effort.
	Cell Size	Mid (GW30V) or Large (GW40V)	Cell size is governed by slope geometry and design cover thickness.
	Cell Depth	3, 4, 6, 8 in (75, 100, 150, 200 mm)	Depth is a function of slope geometry.
	Cell Type	Textured Perforated	Maximized interaction between infill and cellular structure. Perforated cells provide in-plane drainage and inter-cell root development where necessary.
	Cell Color	Standard Black	Material is primarily buried – standard stabilization is incorporated.
<b>The Infill</b>	Topsoil & Vegetation	Local soils and vegetation	Structural restraint of topsoil cover on steep slopes. Cellular system confines and protects the root zone when subjected to concentrated hydraulic flow. The development of rills and gullies is prevented. The cellular structure enhances moisture retention and vegetative development in arid climates.
	Aggregate	Gravels and uniform processed rock	Loose infills can be supported at slope angles greater than their normal angle of repose. Resistance to concentrated surface flows is increased.
	Concrete	Ready-mix	The Geoweb system functions as a flexible formwork and anchorage system. The hard protective cover is flexible, free-draining, and can be rapidly installed or precast in panels.

Other Components (as required)	Geosynthetics	Geotextiles	Non-woven	Light-weight non-woven underlayer acts as a drainage medium, soil filter and root-anchorage element. Some applications may require a geotextile layer above and below the geomembrane.
		Geomembranes	HDPE, GCL or per design	Primary system underlayer.
	Erosion Control Blankets		Temporary bio-degradable	Protects topsoil and seed immediately following installation and provides protection from washout potential prior to vegetation establishment.
	Turf Reinforcement Mats		Various	More permanent protection of topsoil and seed following installation, and provides protection from washout potential prior to vegetation establishment and longer-term surface flows.
	Tendons		Kevlar®, PET, PP and PE	Polymer type and design tensile strength depends on geometry, anchorage design and chemical environment. Long-term creep performance is important.
	The ATRA® Clip		ATRA® Clip	Attached to tendons, provides positive transfer of sliding loads to the tendon system.
	Tendon Anchor Systems		Various	Tendon anchor type depends on geometry, environment, site conditions, and infill type. Dead-man crest anchors or earth anchors are generally recommended.
	Surface Treatments		Various	Application specific including: hydroseeding, emulsion coating, cement grouts, etc.

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