LAYFIELD GEOSYNTHETICS

TECHNICAL SPECIFICATIONS

GEOWEB® LOAD SUPPORT

Use local fill to construct site access roads with the GEOWEB® Load Support System, allowing immediate access after installation. This three-dimensional cellular confinement system confines fill materials to create roadways with minimal granular quantity requirements. It is particularly useful in creating load-bearing structures over soft or unstable subgrades. GEOWEB® cellular confinement system is equally beneficial for base stabilization under asphalt or concrete and can reduce base material requirements by 50% or more.

The GEOWEB® systems include the latest improvements to cellular confinement technology, including textured surfaces for increased friction, perforations for lateral drainage, and ATRA® Keys for panel-to-panel connection.

April 2023

GEOWEB® Load Support

Material Properties

Rev	ASTM	GW20V	GW30V
STRUCTURAL INTEGRITY AND SYSTEM PERFORMANCE			
Cell Depth (Available in 5 Depths)[1]		3" (75mm), 4" (100mm), 6" (150mm), 8" (200mm)	3" (75mm), 4" (100mm), 6" (150mm), 8" (200mm), 12" (300mm)
Cell Size (Length x Width +/- 10%)		8.8" x 10.2" (224mm x 259mm)	11.3" x 12.6" (287mm x 320mm)
Expanded Section Width		10 Cells	8 Cells
		Varies: 7.7' to 9.2' (2.3m to 2.8m)	Varies: 7.7' to 9.2' (2.3m to 2.8m)
Expanded Section Length		18, 21, 25, 29, or 34 Cell	18, 21, 25, 29, or 34 Cells
		Varies: 12' to 27.3' (3.7m to 8.3m)	Varies: 15.4' to 35.1' (4.7m to 10.7m)
STRUCTURAL INTEGRITY AND SYSTEM PERFORMANCE			
Minimum Short Term Seam Peel Strength		≥80 lbf/in (142 N/cm)	≥80 lbf/in (142 N/cm)
Long-Term Seam Peel Strength (standard 4-inch sample width)[2]		160 lb (710 N)	160 lb (710 N)
Internal Junction Efficiency[3]		≥100 %	≥100 %
Mechanical Junction Efficiency (Connection Type: ATRA Key)[3]		≥100 %	≥100 %
Peak Friction Angle Ratio (δ/Ø)[4]		0.95	0.95
MATERIAL PROPERTIES			
Polymer Density	D1505 or D792	0.935 g/cm^3 - 0.965 g/cm^3	0.935 g/cm^3 - 0.965 g/cm^3
Carbon Black Content[5]	ASTM D1603	1.5% - 2.0%	1.5% - 2.0%
Sheet Thickness Prior to Texture	ASTM D5199	1.27mm (50mil), -5% +10%	1.27mm (50mil), -5% +10%
Sheet Thickness After Texture	ASTM D5199	1.52mm (60mil), -5% +10%	1.52mm (60mil), -5% +10%
Texture Type/Shape		Rhomboidal	Rhomboidal
Texture Density		22 - 31 indentations/cm^2	22 - 31 indentations/cm^2

GEOWEB® LOAD SUPPORT

	DURABILITY			
	Environmental Stress Crack Resistance	D1693	>5,000 hrs	>5,000 hrs
	Resistance to Oxidation[6]	EN ISO 13438	≥50 yrs	≥50 yrs
	Resistance to Weathering[7]	EN 12224	100 %	100 %

Notes: 1) 12-inch cell depth available in 21-cell panel length only.
2) A 100-mm (4.0 in.) wide seam sample shall support a 72.5 kg (160 lb) load for a period of 7 days minimum in a a temperature-controlled environment undergoing a temperature change on a 10 hour cycle from ambient room to 54o C (130o F). Ambient room temperature is per ASTM E 41.
3) Junction efficiency determined as a percentage of junction performance (EN ISO 13426-1) to perforated strip performance (EN ISO 10319).
4) Typical design value for clean granular infill material (i.e. - coarse sand or crushed aggregate). Consult with manufacturer to confirm value for other types of infill materials.
5) Standard black HDPE strips. For tan/green GEOWEB, hindered amine light stabilizer (HALS) content will be 2.0% by weight of carrier.
6) Predicted to be durable for a minimum of 50 years in natural soil with a pH between 4 and 9 and at a soil temperature ≤ 25°C.
7) 100% of original tensile strength retained following exposure to intense UV radiation and accelerated weathering in accordance with EN 12224.

INSTALLATION

An Installation guideline manual is available. Installation begins with survey layout, excavation and grading of the subgrade to meet the requirements indicated on the project specific plans and specifications. Geotextile and additional subbase material are placed and compacted as required. The Geoweb® sections are placed and expanded uniformly to the required dimensions and alignment and anchored at the edges with stakes and connected together with ATRA Keys. The specified granular infill backfill material is placed in the Geoweb® cells with suitable equipment like a front end loader or excavator and levelled and compacted as specified. The top wearing surface material is placed, graded and compacted to ensure a minimum of 50 mm of material remains above the Geoweb® sections. Curved areas can be accommodated by varying the expansion of the Geoweb® sections across their width. Refer to and follow complete project specific requirements in the installation guideline, plans, specifications and tender documents.