

Product Specification - GEOWEB® GW40V Geocells

GENERAL

GEOWEB® product is manufactured from textured, perforated strips of high density polyethylene that are bonded together to create a network of interconnected cells. The GEOWEB® cells can be filled with soil, aggregate, concrete, pulverized debris, recycled asphalt pavement, or other infill material for geotechnical applications such as: 1) load support for unpaved and paved roads, railways, ports, heavy-duty pavements, container yard, and basal embankments stabilization; 2) retaining structures, free-standing structures, and fascia walls; and, 3) slope, channel, and geomembrane protection.

DIMENSIONS

| Parameter | Units | Value |
|---|-------------|---|
| Cell Depth (Available in 5 Depths) ¹ | Inches (mm) | 3 (75), 4 (100), 6 (150), 8 (200), 12 (300) |
| Cell Size (Length x Width +/- 10%) | Inches (mm) | 18.7 x 20.0 (475 x 508) |
| Expanded Section Width | No. Cells | 5 |
| | Feet (m) | Varies: 7.7 to 9.2 (2.3 to 2.8) |
| Expanded Section Length | No. Cells | 18, 21, 25, 29, or 34 |
| | Feet (m) | Varies: 25.4 to 58.2 (7.7 to 17.8) |

STRUCTURAL INTEGRITY AND SYSTEM PERFORMANCE

| Parameter | Units | Value |
|--|---------------|-----------|
| Minimum Short Term Seam Peel Strength | lbf/in (N/cm) | ≥80 (142) |
| Long-Term Seam Peel Strength (standard 4-inch sample width) ² | lb (N) | 160 (710) |
| Internal Junction Efficiency ³ | % | ≥100 |
| Mechanical Junction Efficiency (Connection Type: ATRA Key) ³ | % | ≥100 |
| Peak Friction Angle Ratio (δ/ϕ) ⁴ | Unitless | 0.95 |

MATERIAL PROPERTIES

| Parameter | Test Method | Units | Value |
|-----------------------------------|--------------------|------------------------------|---------------------|
| Polymer Density | ASTM D1505 or D792 | g/cm ³ | 0.935 - 0.965 |
| Carbon Black Content ⁵ | ASTM D1603 | % | 1.5 - 2.0 |
| Sheet Thickness Prior to Texture | ASTM D5199 | mm (mil) | 1.27 (50), -5% +10% |
| Sheet Thickness After Texture | ASTM D5199 | mm (mil) | 1.52 (60), -5% +10% |
| Texture Type/Shape | -- | -- | Rhomboidal |
| Texture Density | -- | indentations/cm ² | 22 - 31 |

DURABILITY

| Parameter | Test Method | Units | Value |
|---------------------------------------|--------------|-------|--------|
| Environmental Stress Crack Resistance | ASTM D1693 | hrs | >5,000 |
| Resistance to Oxidation ⁶ | EN ISO 13438 | yrs | ≥50 |
| Resistance to Weathering ⁷ | EN 12224 | % | 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 temperature-controlled environment undergoing a temperature change on a 10 hour cycle from ambient room to 54° C (130° 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.

