

**PRODUCT OVERVIEW**

High-performance cellular confinement system manufactured from Polymeric Composite Alloy (PCA). Designed for heavy-duty load support, steep slope protection, and high-flow channel stabilization. Superior seam integrity and long-term oxidative resistance make it ideal for permanent infrastructure projects.



**1. GENERAL & MATERIAL PROPERTIES**

Property	Value / Description	Test Method
<b>Material</b>	Polymeric Composite Alloy (PCA)	—
<b>Density</b>	0.94 ~ 0.965 g/cm <sup>3</sup>	ASTM D1505 / GB/T19274
<b>Sheet Texture</b>	Textured & Perforated or Smooth	Visual Inspection <sup>1</sup>
<b>Perforation Ratio</b>	6–10% / 10–15% / 15–18% / 18–22%	Project Specific <sup>5</sup>

*\* Superscript numbers refer to Engineering Notes (Section 3). Cell types A–E represent standard grades; New A & New B are enhanced-performance grades.*

**2. MECHANICAL & PERFORMANCE PROPERTIES — BY CELL TYPE**

\* Variance tolerance for Seam and Tensile properties: ± 7%.

Property	Test Method	Type A	Type B	Type C	Type D	Type E	New A	New B
<b>SEAM PROPERTIES</b>								
Single Seam Peel Strength (kN/m)	GB/T19274 / ISO-13426-1	≥ 10	≥ 14	≥ 15.5	≥ 16.5	≥ 18	≥ 23	≥ 28
Double Seam Peel Strength (kN/m) <sup>2</sup>	ISO-13426-1	≥ 23	≥ 28	≥ 31	≥ 33	≥ 36	—	—
<b>TENSILE PROPERTIES</b>								
Material Tensile Yield Strength (MPa)	ASTM D638 / ISO 527	20	22	23	24	24	24	<b>28</b>
Mid-strip Yield — Unperforated (kN/m)	ISO 10319	20	22	23	24	24	25	<b>28</b>
Weld Area (Edge) Yield — Unperforated (kN/m) <sup>4</sup>	ISO 10319	29	32	35	38	42	48	<b>50</b>
Mid-strip Yield — Perforated (kN/m)	ISO 10319	12	15	17	19	20	23	<b>28</b>
Weld Area (Edge) Yield — Perforated (kN/m) <sup>4</sup>	ISO 10319	23	28	31	33	36	46	<b>56</b>
<b>DURABILITY &amp; ENVIRONMENTAL</b>								
High-Pressure OIT (Minutes) <sup>6</sup>	ASTM D5885	≥ 20	≥ 100	≥ 100	≥ 100	≥ 100	≥ 300	≥ 300

**3. ENGINEERING NOTES & SPECIFICATIONS**

- **[Note 1] Sheet Texture:** Select surface texture (textured/perforated or smooth) based on project construction requirements.
- **[Note 2] Double Seam Peel:** Test specimens must be adjusted to simulate the optimal expanded dimensions of the geocell.
- **[Note 3] Textured Specimen:** For textured surfaces, adjust specimen to equivalent smooth thickness for measurement (GB/T19274).
- **[Note 4] Weld Area (Edge):** "Edge" values represent structural yield strength at the welded intersection (two overlapping sheet layers).
- **[Note 5] Perforation Selection:** Perforation ratio must be selected per specific drainage and hydraulic requirements of the project.
- **[Note 6] Design Life:** HP-OIT indicates oxidative degradation resistance. Specifications correspond to a minimum design life of 60 years.

**Contact Us**

• Email [solutions@sylvageo.com](mailto:solutions@sylvageo.com)

• Phone +1 669 228 4383