

TerraCell® 280

Material

TerraCell® is a perforated, textured geocell manufactured from High Density Polyethylene (HDPE) to the following minimum standards:

Fabrication

TerraCell® sections are manufactured from 58 strips of HDPE; each of appropriate height by 142 inches (3.6m) long. Typical panels are 29 cells long and 10 cells wide.

Cell walls are textured with a multitude of rhomboidal indentations with a surface density of 22 to 31 per cm² (140 to 200 per in²). Perforations remove 16% ± 3% of the cell wall Cell joints are ultrasonically spot-welded with 3 welds per inch uniformly spaced across the height of each strip. Seam strengths are the same across the entire height of the cell joint and meet the minimum tensile requirements of the following table:

Seam Hang Strength

Seam Hang Strength – A 4.0 in (100 mm) weld joint supporting a load of 160 lbs (72.5 kg) for 30 days minimum or a 4.0 in (100 mm) weld joint supporting a load of 160 lbs (72.5 kg) for 7 days minimum, while undergoing temperature change from 74° F (23°C) to 130° F (54° C) on a 1-hour cycle.

Property	Test Method	English	Metric
MATERIAL			
Nominal Sheet Thickness Before Texturing ¹	ASTM D-5199	50, +10%, -5% mils	50, +10%, -5% mils
Nominal Sheet Thickness After Texturing ¹	ASTM D-5199	60, +10%, -5% mils	60, +10%, -5% mils
Density	ASTM D-1505	0.935 - 0.965 g/cm ³	0.935 - 0.965 g/cm ³
Carbon Black Content	ASTM D-1603	1.5 %	1.5 %
Environmental Stress Crack Resistance	ASTM D-1693	6000 hours	6000 hours
Environmental Stress Crack Resistance 2	ASTM D-5397	>400 hours	>400 hours
FABRICATION			
8" Cell Depth (Nominal Panel Weight)		114 lbs	51.7 kg
6" Cell Depth (Nominal Panel Weight)		86 lbs	39.0 kg
4" Cell Depth (Nominal Panel Weight)		57 lbs	25.9 kg
3" Cell Depth (Nominal Panel Weight)		43 lbs	19.5 kg
8" Cell Depth (Seam Peel Strength)		640 lbs	2.84 kN
6" Cell Depth (Seam Peel Strength)		480 lbs	2.13 kN
4" Cell Depth (Seam Peel Strength)		320 lbs	1.42 kN
3" Cell Depth (Seam Peel Strength)		240 lbs	1.06 kN
CELL/SECTION DIMENSIONS			
Nominal Expanded Cell Size (width x length)		20.0 x 18.7 in	508 x 287 mm
Nominal Expanded Cell Area		187.0 in ²	1206 cm ²
Nominal Expanded Section (width x length)		8.4 x 45.0 ft	2.56 x 13.72 m
Nominal Expanded Section Area		378 ft ²	35.14 m ²
Minimum Expanded Section (width x length)		9.2 x 40.9 ft	2.8 x 12.5 m
Maximum Expanded Section (width x length)		7.6 x 49.7 ft	2.3 x 15.1 m

1. Mean of 10 measurements