

1BZ Geocomposite Drain

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1. DESCRIPTION

Extruded high density polyethylene (HDPE) net drainage core with a nonwoven polypropylene (PP) geotextile filter/separator bonded to one side and an extruded (PE/EVA) geomembrane bonded to the other.

2. APPLICATION

Typical Applications include:

- Highways: vertical edge-of-carriageway drains intercept the lateral flow of ground water. Modern fin drains reduce excavation, reduce backfill quantities and reduce installation time. In-slope drainage increases geotechnical stability.
- Retaining walls and bridge abutments: to reduce pore water pressure and avoid backfill saturation.
- Engineered landfills: with the additional requirement of long-term chemical resistance and high compressive strength.
- Tunnels: ground-water-seepage interception between rock face and the tunnel lining.
- Buried structures: vertical and horizontal drains for basements, culverts, car parks, reservoirs, etc.

3. FEATURES

Terram Net drainage geocomposites are manufactured using Terram T1000LE, a unique geotextile filter developed specifically for use in drainage geocomposites for its high tensile modulus and ability to prevent soil ingress into the void space of the drainage core.

Terram drainage cores are manufactured from HDPE nets which have been engineered to have good flow under high loading.

| | | | Mean Value (Applied tolerance Value ¹⁰⁾) |
|--|--------------|--------------------|---|
| | | | 1BZ |
| Test Method | Unit | | |
| 4. MECHANICAL PROPERTIES – Composite | | | |
| Tensile Strength | EN ISO 10319 | kN/m MD | 13.5 (-2.0) |
| | | CMD | 10.0 (-1.0) |
| Tensile Elongation | | % MD/CMD | 25/35 (±15) |
| CBR Puncture Resistance | EN ISO 12236 | N | 2200 (-220) |
| 5. HYDRAULIC PROPERTIES – Geotextile Filter | | | |
| Pore Size - Mean AOS | EN ISO 12956 | µm | 75(±20) |
| Permeability—(H ₅₀) | EN ISO 11058 | l/m ² s | 50(-15) |
| 6. HYDRAULIC PROPERTIES – Composite | | | |
| In plane water flow MD (hard platens) | EN ISO 12958 | l/m.s | |
| | | i=1 @ 20kPa | 0.70 (-0.07) |
| | | i=1 @ 100kPa | 0.60 (-0.06) |
| | | i=1 @ 200 kPa | 0.55 (-0.10) |
| | | i = 0.1 @ 20kPa | 0.20 (-0.05) |
| | | i = 0.1 @ 100kPa | 0.15 (-0.04) |
| | | i = 0.1 @ 200 kPa | 0.12 (-0.03) |

6. HYDRAULIC PROPERTIES – Composite

In plane water flow MD

(soft platens)

EN ISO 12958

l/m.s

i=1 @ 20kPa

i=1 @ 100kPa

i=1 @ 200 kPa

i = 0.1 @ 20kPa

i = 0.1 @ 100kPa

i = 0.1 @ 200 kPa

1BZ

0.50 (-0.05)

0.20 (-0.02)

0.10 (-0.02)

0.15 (-0.02)

0.05 (-0.01)

0.02 (-0.005)

7. PHYSICAL PROPERTIES – Composite

1BZ

Thickness @ 2kPa

EN ISO 9863-1

mm

5.0 (-0.5)

8. MATERIAL DIMENSIONS – Composite

Standard Roll Length (s)

m

25/50/100

Standard Roll Width

m

2/3.8/4.0

Filter overlap

mm

100

9. PACKAGING & IDENTIFICATION

Terram Geocomposite drains are supplied on cardboard cores and wrapped in Polyethylene sheeting with identification labels in accordance with ISO 10320.

10. STORAGE

The rolls of geocomposite shall be stored on stable/ level ground and stacked not more than five rolls high and no other materials shall be stacked on top. The rolls can be stored outdoors when packaged, but should be protected from exposure to UV. All materials should be stored in accordance with good health and safety practice and in accordance with local laws. .

11. NOTES:

- a. Reported values are arithmetic mean values unless otherwise stated, A set of test results shall be those results derived from specimens cut from one sample and taken across the full width of the roll. For sampling, EN ISO 9862 should be applied, i.e. samples should be taken not less than 5m from the end of the roll in machine direction and over the whole width in the cross machine direction. The location of the sample should be described exactly. Applied tolerances are based on 95% Confidence limits, this is the value below which not more than 5% of the test results may be expected to fall. For evaluation of conformance, statistical procedure should be used in line with section 5.2 of CEN/TR 15019: 2004. The tolerance value provided for tensile elongation is based on an absolute value; e.g.60% ±20%=40%-80%.
- b. A Nominal value indicates that the value is not part of the performance specification and is provided for guidance only.

12. ADDITIONAL INFORMATION

Refer to the Terram Jointing Methods (downloadable from www.terram.com) for when simple overlaps are required for subsequent and adjacent roll lengths. However, pegging, sewing, stapling or gluing can also be used depending upon the application, the sub-grade conditions, the loading, the convenience and the cost. These figures relate to standard product weights and roll sizes. Other weights, sizes and colours may be available on request. For further information please contact Fiberweb Geosynthetics' Technical Support.

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