**product specifications**

# ROADRAIN -T 5100-2

The drainage geocomposite is comprised of a tri-planar geonet structure with thermally bonded nonwoven geotextiles on both sides. This product is capable to quickly remove subsurface water from the pavement. The product provides a void-maintaining system to work as a capillary break; it also works as a separation and base reinforcement layer and will have properties conforming to the values and test methods listed below.

| PROPERTY | TEST METHODS | UNITS | VALUE | QUALIFIER | TEST FREQUENCY |
|---|---|---|---|---|---|
| **Resin** | | | | | |
| • Density | ASTM D 1505 | g/cm$^3$ | 0.94 | MAV | lot |
| • Melt Flow Index | ASTM D 1238 | g/10 min | 1.0 | MAX | lot |
| **Geonet Core**[1] | | | | | |
| • Structure | Triplanar Void Maintaining Structure | | | | |
| • Geonet Cross-Rib Spacing | Calibered | inch (mm) | 0.43 (11.0) | MAX | 50,000 sf |
| • Geonet Main-Rib Spacing | Calibered | inch (mm) | 0.39 (10.0) | typical | 50,000 sf |
| • Unsupported Aperture Area | | inch$^2$ (mm$^2$) | 0.25 (162) | MAX | 50,000 sf |
| • Thickness | ASTM D 5199 | mil (mm) | 280 (7.1) | ±10 % | 50,000 sf |
| • Carbon Black | ASTM D 4218 | % | 1.0 - 3.0 | Range | 50,000 sf |
| **Nonwoven Geotextile**[1,3] | | | | | |
| • U.V. Resistance (500 hrs) | ASTM D 4355 | % | 70 | | Per formula |
| • Serviceability Class | AASHTO M-288 | | Class 1 | | |
| • Grab Tensile | ASTM D 4632 | lbs (N) | 202 (900) | MARV | 100,000 sf |
| • Grab Elongation | ASTM D 4632 | % | 50 | MARV | 100,000 sf |
| • Tear Strength | ASTM D 4533 | lbs (N) | 79 (350) | MARV | 100,000 sf |
| • Puncture Resistance | ASTM D 4833 | lbs (N) | 110 (490) | MARV | 100,000 sf |
| • AOS | ASTM D 4751 | US Sieve (mm) | 80 (0.18) | MaxARV | 500,000 sf |
| • Permittivity | ASTM D 4491 | Sec$^{-1}$ | 1.0 | MARV | 500,000 sf |
| **Geocomposite** | | | | | |
| • Peel Adhesion – MD | ASTM D 7005 | lb/in (g/in) | 1.0 (454) | MAV | 100,000 sf |
| **Hydraulic Properties** | | | | | |
| Load of 5,000 psf at gradient of 0.02 | | | | | |
| • Transmissivity[4] - flow in the main rib direction | ASTM D 4716 GRI - GC8 | m$^2$/sec (gpm/ft) | 1.5 E-3 (7.25) | MAV | 200,000 sf |
| • Coefficient of Permeability[5] - flow in the main-rib direction | ASTM D 4716 GRI - GC8 | m/sec (ft/day) | 0.23 (65,200) | MAV | 200,000 sf |

Qualifiers: MARV=Minimum Average Roll Value (MARV), MAV=Minimum Average Value, MAX=Maximum Value, MaxARV=Maximum average roll value.

NOTES: **1.** Geonet and Geotextile properties listed are prior to fabrication process. **2.** Geonet structure consists of thick main-ribs with diagonally placed top and bottom-ribs. Void maintaining structure is determined by both the dry and wet methods (see Tenax technical document TDD020 for test method description.) **3.** Geotextile exceeds AASHTO Standard Specification M 288 strength requirements of class 1. **4.** Geocomposite transmissivity and flow rate are measured per ASTM D4716 with testing boundary conditions as follows: steel plate / Ottawa sand / geocomposite / Ottawa sand / steel plate, and seating period of 100 hours according to GRI-GC8. Digital gradient indicator of hydraulic gradient is required during the transmissivity measurement **5.** Coefficient of permeability is calculated with the measured geocomposite transmissivity and the retained geonet core thickness under the corresponding normal load.

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