

SYNTEC PRODUCT SPECIFICATION

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SYNTEC
GEOSYNTHETICS EVOLVED

ROADRAIN T-7

ROADRAIN T-7 is a Synthetic Subsurface Drainage Layer (SSDL) comprised of a tri-planar structure with thermally bonded 8oz. nonwoven geotextile filters on both sides. This product quickly removes subsurface water from pavement systems, while providing a void-maintaining system to work as a capillary break. ROADRAIN T-7 also works as a separation and base reinforcement layer, as well as a replacement of natural stone drainage layers directly under highway pavements. ROADRAIN T-7 has properties conforming to the values and test methods listed below:

| PROPERTY | TEST METHODS | UNITS | VALUE | QUALIFIER |
|--|---|---|-------------|--------------------|
| TRI-PLANAR CORE¹ | | | | |
| Density | ASTM D 792 | g/cm ³ | 0.94 – 0.96 | Range |
| Melt Flow Index | ASTM D 1238 | g/10 min | 1.0 | MAX |
| Carbon Black | ASTM D 4218 | % | 2-3 | Range |
| Rib Spacing (top & bottom) | Callipered | inch (mm) | 0.4 (10) | Typical |
| Central Rib Spacing | Callipered | inch (mm) | 0.5 (12.5) | Typical |
| Unsupported Aperture Area | Callipered | inch ² (mm ²) | 0.3 (195) | MAX |
| Thickness | ASTM D 5199 | mil (mm) | 300 (7.6) | ±10 % |
| NONWOVEN GEOTEXTILE¹ | | | | |
| Strength | AASHTO M 288 | Exceeds Class 1 | | |
| U.V. Resistance (500 hrs) | ASTM D 4355 | % | 70 | MARV |
| AOS | ASTM D 4751 | US Std Sieve(mm) | 80 (0.15) | MaxARV |
| Permittivity | ASTM D 4491 | sec ⁻¹ | 1.1 | MARV |
| Water Flow Rate | ASTM D 4491 | gpm/ft ² (l/min/m ²) | 90 (3675) | MARV |
| SSDL PERFORMANCE | | | | |
| Pavement Fatigue Number of cycles before cracks propagate | | cycles | 3000 | Notes ² |
| Capillary Barrier | ASTM 5918 | Effective | | Notes ³ |
| Coefficient of Permeability | ASTM D 4716 | ft/day | 56,700 | Notes ⁴ |
| DIMENSIONS & FLOW ORIENTATION | | | | |
| Roll Size | 12.75 ft x 200 ft (3.89 m x 61 m) | | | |
| Direction of Primary Flow | Across the roll width @ approximately 45° | | | |

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

NOTES:

- Geotextile and core properties listed are prior to lamination.
- Cyclic Fatigue Test was performed at the University of Illinois, Advanced Transportation Research and Engineering Laboratory. The test was performed on a concrete beam supported by the SSDL overlying a clay subgrade. The Stress Ratio defined as: Load Stress / Flexural Strength of the Concrete Beam = 0.83.
- USACE Cold Regions Research and Engineering Laboratory (CRREL) "Freezing tests on lean clay with Tenax tri-planar geocomposite as capillary barrier"
- Coefficient of permeability is calculated with the measured SSDL transmissivity and the nominal core thickness. SSDL transmissivity is tested along the primary flow direction with the boundary conditions as follows: steel plate/Ottawa sand/SSDL/Ottawa sand/steel plate, 1 hour seating period @ 15,000psf and gradient 2%.