



Roadway Drainage System

Specification Sheet – ROADRAIN 7 (RD-7)

ROADRAIN 7 is a Synthetic Subsurface Drainage Layer (SSDL) comprised of a tri-planar structure with thermally bonded 8 oz. 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 7 also works as a separation layer, as well as a replacement of natural stone drainage layers directly under highway pavements. ROADRAIN 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
Carbon Black	ASTM D 4218	%	2-3	Range
Rib Spacing (top & bottom)	Calipered	in. (mm)	0.4 (10)	Typical
Central Rib Spacing	Calipered	in. (mm)	0.5 (12.5)	Typical
Unsupported Aperture Area	Calipered	in. 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:

1. Geotextile and core properties listed are prior to lamination.
2. 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.
3. As tested by the USACE Cold Regions Research and Engineering Laboratory (CRREL).
4. 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, one hour seating period @ 15,000 psf and gradient 2%.



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