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terrafix[®]
geosynthetics inc.

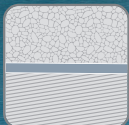
TerraTex[®] DriBase[™] High-Performance Moisture Wicking Geotextile



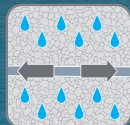
DRAINAGE



FILTRATION



SEPARATION



MOISTURE
MANAGEMENT

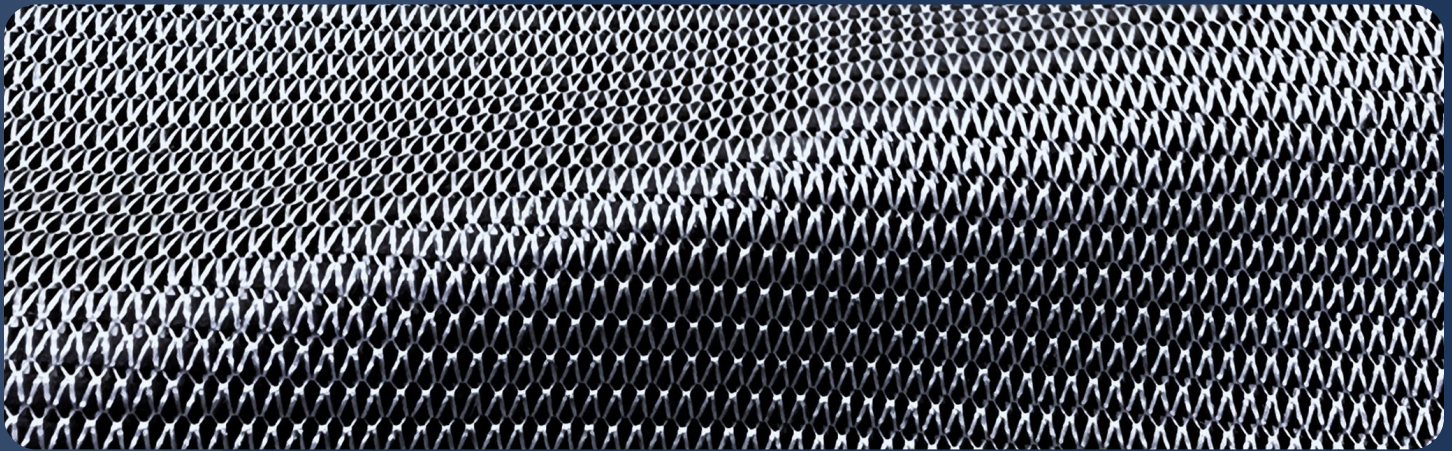


CONFINEMENT



REINFORCEMENT

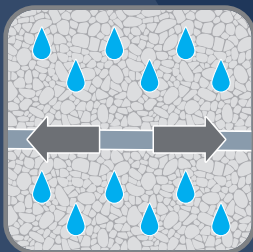
TerraTex® DriBase™



TerraTex® DriBase™ can reduce or help maintain the moisture content of subgrades and base courses, which improves modulus and overall pavement performance.

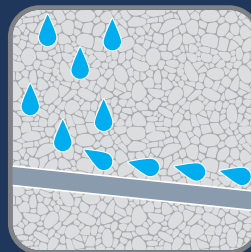
TerraTex® DriBase™ mitigates frost heave damage to pavements in frost-susceptible soils/regions.

FUNCTIONS



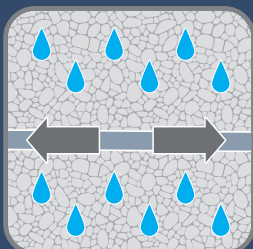
Moisture Management

The ability to move water through a soil-geotextile system by capillary action, gravity, and positive hydraulic gradient



Drainage

Provides for adequate in-plane movement of water through the geotextile over the service life of a trafficked structure



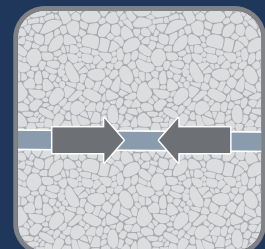
Reinforcement



Filtration



Separation



Confinement

WHAT IS A WICKING FABRIC? HOW DOES IT WORK?



- Move water through capillary action and gravity
- Reduce/maintain base and subgrade moisture content

Geotextiles have been used in roadway construction since the early 1970s, providing three primary functions. Now, with Active Moisture Management, they can provide a fourth:

- **Separation** – keeping dislike materials from intermixing over time, such as preventing aggregate base loss into a softer subgrade due to repeated wheel loading.
- **Filtration** – protecting a drainage or aggregate layer from soil/fines intrusion. Fine materials, like clays and silts, can reduce permeability and strength within a layer of aggregate.
- **Stabilization** – reducing the pressure on subgrade soils by improving aggregate confinement or stress distribution through aggregate base layers.
- **New Function: Moisture Wicking, Capillary Active Geotextile** – drainage is one of the most important factors to consider in any roadway design, as poor drainage is generally the most common cause of premature failures or reduced service life. With recent technology advancements, **TerraTex® DriBase™** not only provides the previous functions but can also actively manage moisture in the pavement section for improved roadway performance.



Test Setup

A 12-inch-wide geotextile specimen was anchored at two ends at the same elevation, and preloaded to approximately 50 lbs to maintain the geotextile specimen in approximately level. The water table within the reservoir was at the same elevation of the horizontal geotextile specimen.

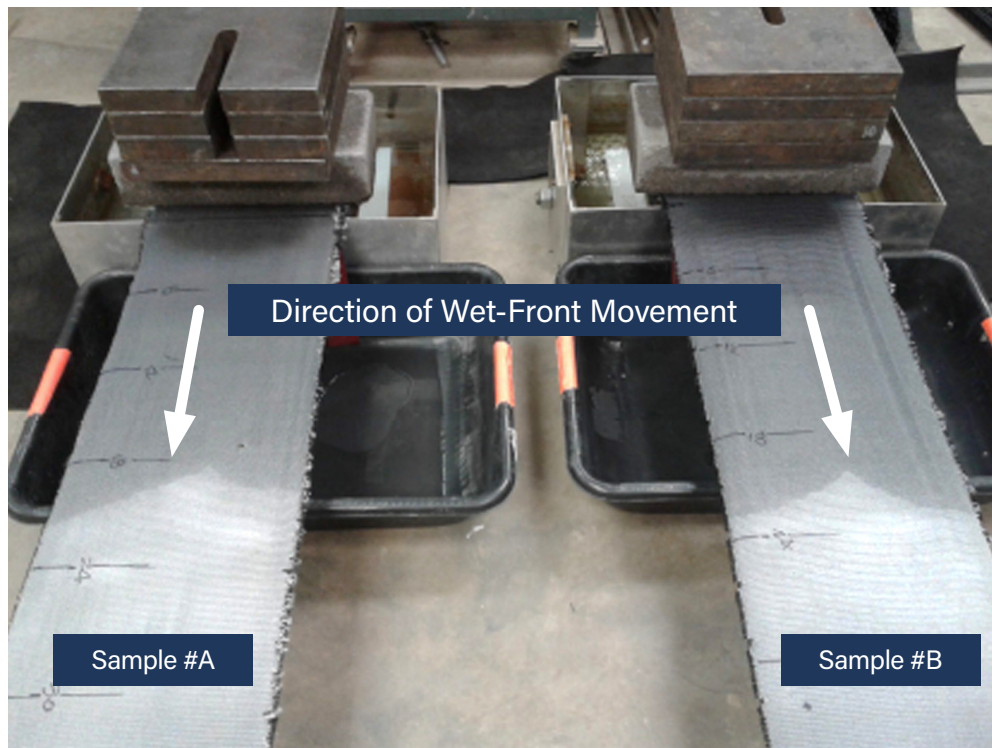


Figure 1

The wet-front moved to approximately 20 inch (sample #A) and 22 inch (sample #B).

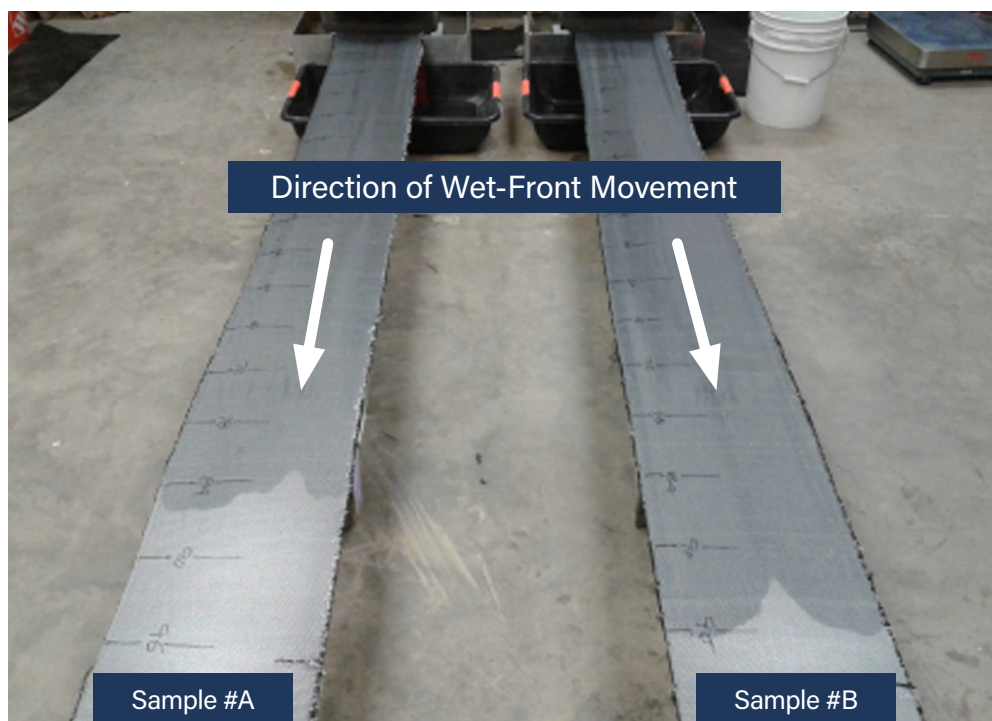


Figure 2

The wet-front reached max 85 inch (sample #A) and 95 inch (sample #B).

Test Setup

A 12-inch-wide x 36 long (high) geotextile specimen was fixed at two ends (wrapped 0.75 inch diameter steel rod). The geotextile test specimen was perpendicular to the water table in the reservoir.

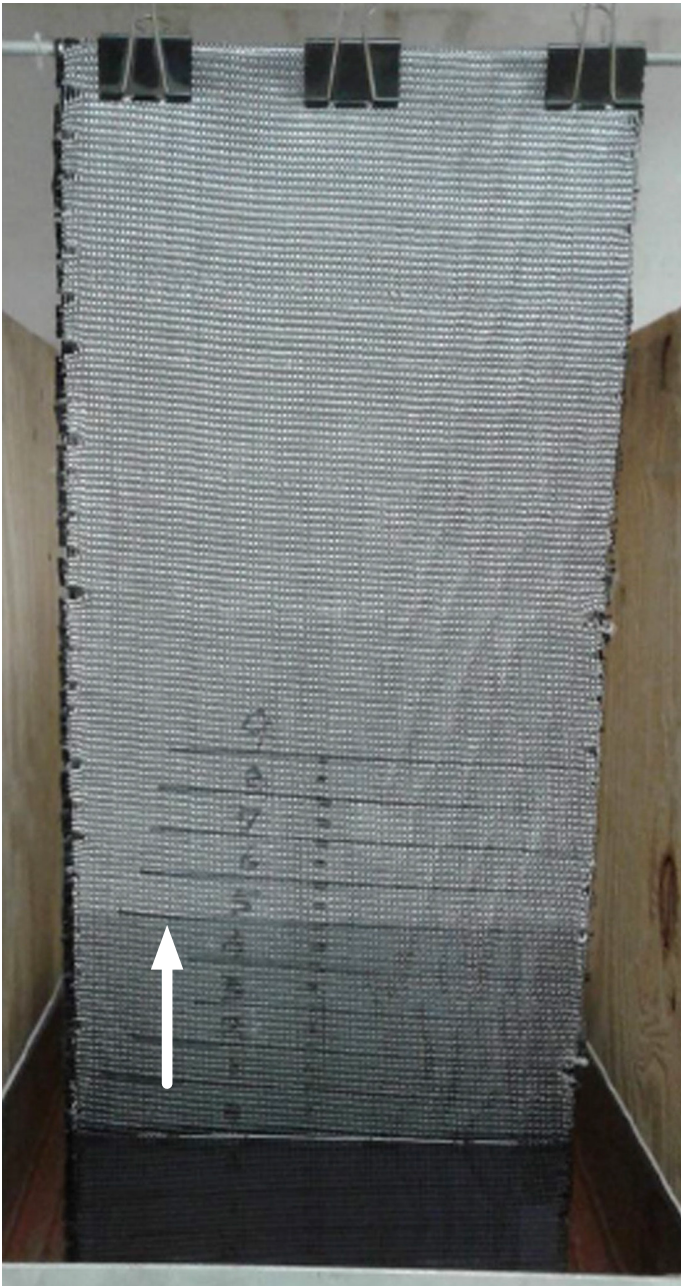


Figure 4
The wet-front moved to 5 inch in Test #2 (vertical wicking).

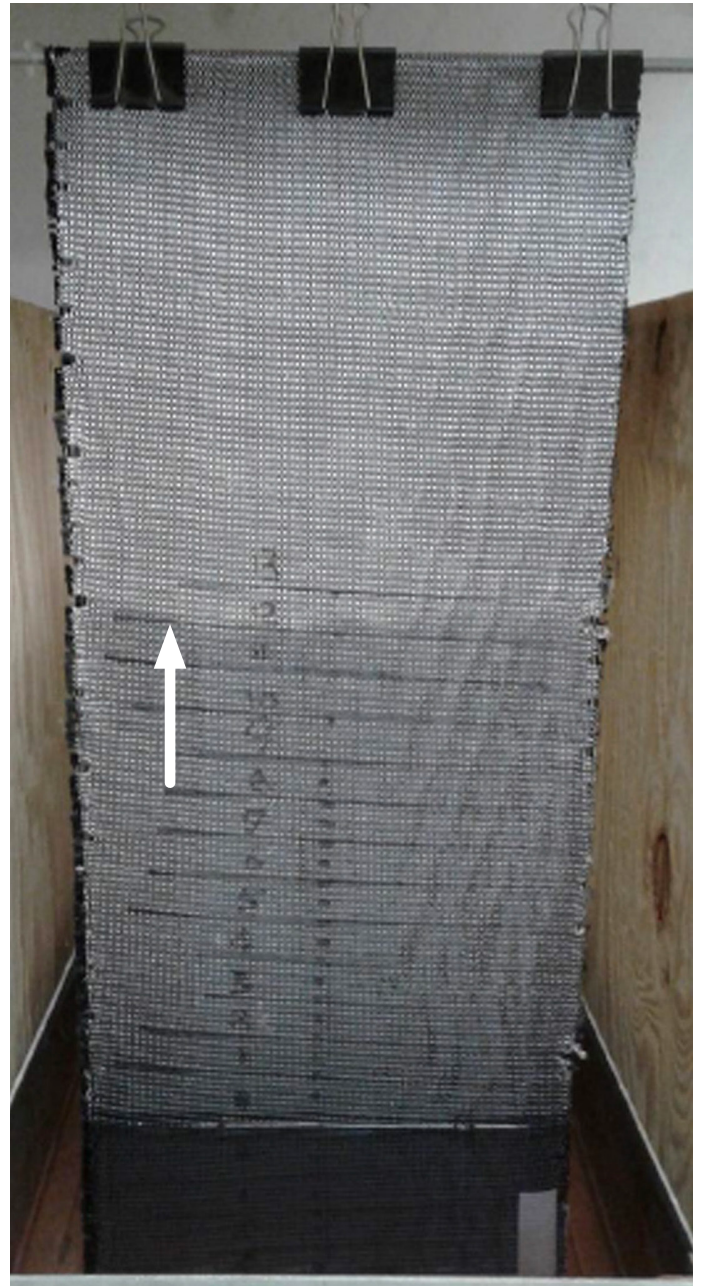
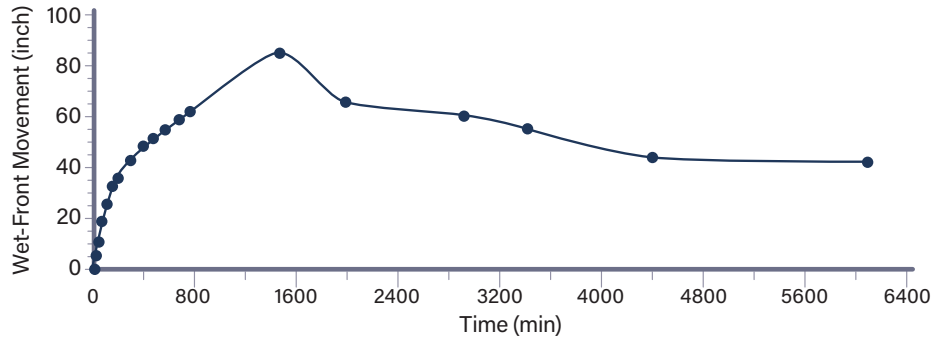


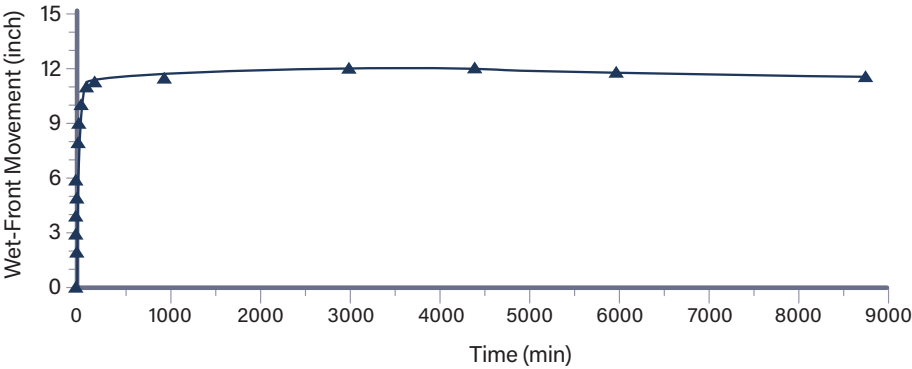
Figure 5
The wet-front moved to 12 inch in Test #2 (vertical wicking).

Wet-Front Movement Along Wicking Geotextile in the Horizontal Direction (ASTM C 1559 Modified)

Hanes Geo Wicking Geotextile Sample #A in Cross-Machine Direction (SGI Lab Samples ID: S23994)

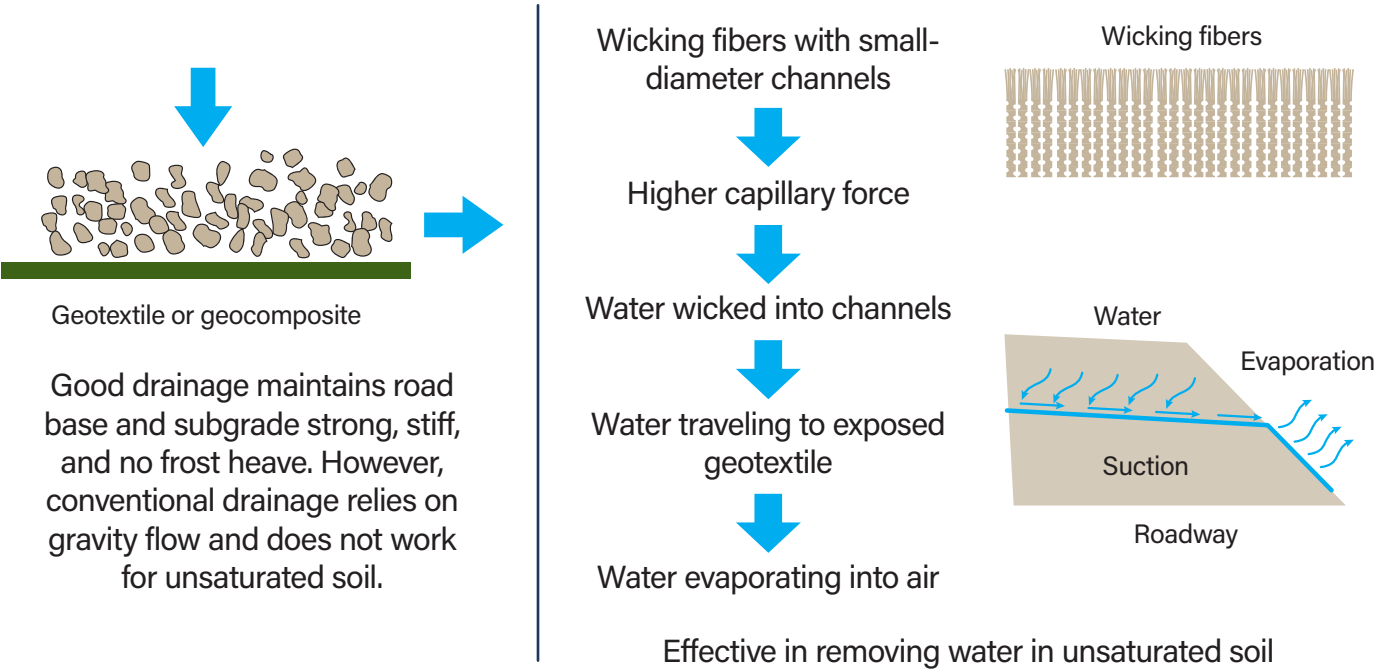


Wet-Front Movement Along Geotextile in the Vertical Direction (ASTM C 1559 Modified)
Hanes Geo Wicking Geotextile in Cross-Machine Direction (SGI Lab Sample ID: S23603)



Test	Test Conditions								
2	Test Specimen: 12" wide by full roll width Hydraulic gradient = 0 Flow Direction: Horizontal, parallel to CMD Temperature: 70 to 74 °F Note: The wet-front velocity is defined as incremental wet-front travel divide by incremental time.								
Date (mm/dd/yyyy)	Time (hh/mm/mm)	Duration (min)	Wet-Front Movement (in.)	Wet-Front Velocity (in/hr)	Date (mm/dd/yyyy)	Time (hh/mm/mm)	Duration (min)	Wet-Front Movement (in.)	Wet-Front Velocity (in/hr)
9/1/2022	16:29:00	0.0	0.0	0.00	9/1/2022	18:11:00	102.0	11.00	1.50
9/1/2022	16:30:00	1.0	2.00	120.00	9/1/2022	19:16:00	167.0	11.25	0.23
9/1/2022	16:31:00	2.0	3.00	60.00	9/1/2022	20:05:00	216.0	11.28	0.03
9/1/2022	16:32:00	3.5	4.00	40.00	9/2/2022	8:50:00	981.0	11.50	0.02
9/1/2022	16:35:00	6.0	5.00	24.00	9/3/2022	19:00:00	3031.0	12.00	0.01
9/1/2022	16:40:00	11.0	6.00	12.00	9/4/2022	18:07:00	4418.0	12.00	0.00
9/1/2022	16:55:00	26.0	8.00	8.00	9/5/2022	20:00:00	5971.0	11.75	-0.01
9/1/2022	17:10:00	41.0	9.00	4.00	9/7/2022	18:07:00	8738.0	11.50	-0.01
9/1/2022	17:31:00	62.0	10.00	2.86					

Gravity vs. Wicking Drainage



TerraTex® DriBase™

TerraTex® DriBase™ is a high-performance warp-knitted geotextile engineered to provide separation, filtration, stabilization, and moisture management in roadway applications. It is non-biodegradable and stabilized to resist degradation due to ultraviolet exposure, as well as commonly encountered soil chemicals, mildew, and insects. TerraTex® DriBase™ is manufactured to meet the values listed in the following table.

PROPERTY	TEST METHOD	UNIT	DESIGN VALUE
Wide width tensile (2% strain XMD) ¹	ASTM D-4595	lbs/ft (kN/m)	1,100 (16.1)
Wide width tensile (2% strain MD) ¹	ASTM D-4595	lbs/ft (kN/m)	500 (7.3)
Wide width tensile (XMD) ¹	ASTM D-4595	lbs/ft (kN/m)	5,320 (77.6)
Wide width tensile (MD) ¹	ASTM D-4595	lbs/ft (kN/m)	5,320 (77.6)
Wide width tensile elongation ³	ASTM D-4595	%	20
Pore size ^{2,5} 0 ₉₅	ASTM D-6767	microns	195
Pore size ^{2,5} 0 ₅₀	ASTM D-6767	microns	85
Permittivity ^{1,5}	ASTM D-4491	sec ⁻¹	0.5
Water flow rate ^{1,5}	ASTM D-4491	gal/min/sf (l/min/sm)	50 (2,037)
Aos ^{3,5}	ASTM D-4751	US Std. Sieve (mm)	40 (0.425)
Wet front movement ⁴ , vertical direction, 11 minutes	ASTM C-1559	inches	6
Wet front movement ⁴ , horizontal direction, 950 minutes	ASTM C-1559	inches	75

¹Minimum average value
²Nominal value
³Maximum average value
⁴Minimum test value, ASTM C-1559 modified, standard temperature and pressure
⁵At the time of manufacturing; handling, storage, and shipping may change these values

ROLL DIMENSIONS		
Roll Width	ft/m	15/4.57
Roll Length	ft/m	300/91.4
Area	yd ² (m ²)	500/418