



## SECTION 1011

### GEOTEXTILE

**1011.1 Scope.** This specification covers geotextile for use in subsurface drainage, sediment control and erosion control, or as a permeable separator.

**1011.2 Acceptance.** Acceptance of the material will be based on the manufacturer's certification and upon the results of such tests as may be performed by the engineer.

**1011.3 Material.** Geotextiles shall be in accordance with the physical and chemical requirements of AASHTO M 288 for the specified application, except as modified in this specification.

**1011.3.1 Subsurface Drainage Geotextile.** Subsurface drainage geotextile shall be used in subsurface drainage as a filter to protect drainage media from clogging with fines from adjacent soil. Typical applications include the lining of drainage trenches and the wrapping of drainpipes.

**1011.3.1.1** The minimum permittivity shall be  $1.0 \text{ sec}^{-1}$ .

**1011.3.1.2** The material shall be AASHTO Class 2.

**1011.3.2 Temporary Silt Fence Geotextile.** Temporary silt fence geotextile shall be used in supported or non-supported sediment control fencing.

**1011.3.3 Permanent Erosion Control Geotextile.** Permanent erosion control geotextile shall be used when the erosion control measure will not be removed, such as erosion control of slopes and channels when placed under a rock blanket, rock ditch liner, etc.

**1011.3.3.1** The minimum permittivity shall be  $1.0 \text{ sec}^{-1}$ .

**1011.3.3.2** The material shall be either AASHTO Class 1 or Class 2.

**1011.3.4 Separation Geotextile.** Separation geotextile shall be used as a separation material to prevent mixing of dissimilar material, and to control migration of backfill material through joints in structural elements.

**1011.3.4.1** The minimum permittivity shall be  $1.0 \text{ sec}^{-1}$ .

**1011.3.4.2** The material shall be AASHTO Class 1.

**1011.3.5 Erosion Control Blankets.** Erosion control blankets shall be a suitable system of Best Management Practices (BMP) as defined by MoDOT's current General Permit, from the Department of Natural Resources, for construction or land disturbance activities as approved by the engineer.

**1011.3.6 Turf Reinforcement Mats.** Turf reinforcement mats shall be a suitable system of Best Management Practices (BMP) as defined by MoDOT's current General Permit, from the

Department of Natural Resources, for construction or land disturbance activities as approved by the engineer.

**1011.3.7 Unbonded Concrete Overlay Interlayer.** Unbonded concrete overlay interlayers shall have the following material properties:

Property	Requirement	Test Method
Fabric Type	Non-woven Geotextile	
Mass per unit area	Min. 14.8 oz/sq.yd	ASTM D 5261
Thickness under load (pressure)	0.29 psi: $\geq 0.12$ in 2.9 psi: $\geq 0.10$ in 29 psi: $\geq 0.04$ in	ASTM D 5199, modified under loads of 0.29, 2.9, and 29 psi
Tensile strength	$\geq 685$ lb/ft	ASTM D 4595
Maximum elongation	$\leq 130\%$	ASTM D 4595
Water permeability in normal direction under load (pressure)	$\geq 3.3 \times 10^{-4}$ ft/s [under pressure of 2.9 psi]	ASTM D 5493
Water permeability in the plane direction of the fabric (transmittivity) under load (pressure)	$\geq 1.6 \times 10^{-3}$ ft/s [under pressure of 2.9 psi] $\geq 6.6 \times 10^{-4}$ ft/s [under pressure of 29 psi]	ASTM D 6574
Weather resistance	Resistance $\geq 60\%$	EN 12224
Alkali resistance	$\geq 96\%$ Polypropylene/Polyethylene	

**1011.4 Certification.** The contractor shall furnish a manufacturer's certification to the engineer for each lot of material furnished stating the name of the manufacturer, the chemical composition of the filaments or yarns and certifying that the material supplied is in accordance with this specification. The certification shall include or have attached typical results of tests from specific lots for all specified requirements.