

FABRIC FOR EMBANKMENT STABILIZATION**(SPECIAL)****DESCRIPTION:**

This work consists of furnishing and installing synthetic fabric for stabilizing embankment in accordance with this provision or as directed by the Engineer. The work shall include maintaining the fabric in the required configuration until completion and acceptance of overlying work items. The fabric shall be placed at the locations shown in the plans or as directed by the Engineer.

MATERIAL:

The fabric for embankment stabilization shall be made of high-tenacity polyester in the machine direction with a plain or straight-warp weave pattern and polyester or polypropylene in the cross machine direction or approved equal. The fabric shall be composed of strong rot-proof synthetic fibers formed into a fabric of the woven type. The fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation.

The fabric shall contain stabilizers and/or inhibitors to make the filaments resistant to deterioration resulting from ultraviolet or heat exposure. The fabric shall be a pervious sheet of synthetic fibers oriented into a stable network so that the fibers retain their relative positions with respect to each other. The edges of the fabric shall be finished to prevent the outer yarn from pulling away from the fabric. The fabric shall be free of defects or flaws which significantly affect its physical and/or filtering properties. Sheets of fabric shall be sewn together with a seam that furnishes the required minimum strengths. The seam thread shall be made of synthetic fibers which are resistant to deterioration, as are the fabric fibers. Lamination of fabric sheets to produce the physical requirements of a fabric layer will not be accepted.

During all periods of shipment and storage, the fabric shall be wrapped in a heavy duty protective covering to protect the fabric from direct sunlight ultraviolet rays, mud, dust, dirt, and debris. The fabric shall not be exposed to temperatures greater than 140°F. After the protective wrapping has been removed, the fabric shall not be left uncovered under any circumstances for longer than one (1) week.

The fabric shall meet the following physical requirements:

All values represent minimum average roll values (any roll in a lot should meet or exceed the minimum values in this table).

EMBANKMENT STABILIZATION FABRIC

<u>Fabric Property</u>	<u>Test Method</u>	<u>Requirements</u>
AOS, US STD Sieve	ASTM D-4751	20-70
Seams, Strength Cross Machine Direction Only	ASTM D-4884	500 lbs/ft
Ultraviolet (UV) % Strength Retained	ASTM D-4355	30%
Permeability	ASTM D-4491	0.02 in/sec.
Tensile Strength at 5% Strain	ASTM D-4595 (Wide Strip Test)	Machine Direction 8000 lbs/ft
Tensile Strength at 10% Strain	ASTM D-4595 (Wide Strip Test)	Machine Direction 16000 lbs/ft
Ultimate Tensile Strength	ASTM D-4595 (Wide Strip Test)	Machine Direction 18000 lbs/ft

The Contractor shall furnish certified test reports by an approved independent testing laboratory with each shipment of material attesting that the fabric meets the requirements of this provision; however, the material shall be subject to inspection, test, or rejection by the Engineer at any time. The Contractor shall furnish the Engineer certified test reports by an approved independent testing laboratory attesting that the sewn seam provides the required strength.

The Contractor shall furnish and place over the embankment stabilization fabric as shown in the plan or directed by the engineer.

CONSTRUCTION METHODS:

The fabric for embankment stabilization shall be placed at locations shown in the plans or as directed by the Engineer. The locations should be cleared and free of obstructions, debris and

pockets. Stumps shall be cut smooth at the ground elevation with the root system left intact. At the time of installation, the fabric shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation, or storage.

The fabric for embankment stabilization shall be placed with the machine directions as shown on the plans or as directed by the engineer. Fabric shall be laid smooth and free from tension, stress fold, wrinkles or creases without any joint, seam, or overlapping in the machine (warp) direction. All joints in the cross machine direction must be either overlapped a minimum of 18 in. or sewn by an approved method to develop the required seam strength. All sewn seams must be placed upward to allow for inspection. All fabric which is damaged as a result of installation will be required to be replaced or repaired at the discretion of the Engineer with no additional cost to the Department. Compaction equipment must be operated such that it will not damage the fabric.

Any fabric which is damaged as a result of installation or which is left uncovered for longer than one week after placement shall be replaced at no additional cost to the Department.

METHOD OF MEASUREMENT

The quantity of fabric to be paid for will be the number of square yards of "Fabric for Embankment Stabilization" measured along the surface of the ground which has been acceptably placed. No separate measurement will be made of overlapping fabric.

BASIS OF PAYMENT:

The quantity of fabric, measured as provided above, will be paid for at the contract unit price per square yard for "Fabric for Embankment Stabilization". Such price and payment will be full compensation for furnishing, hauling, placing, compaction, and all incidentals necessary to complete the work.

Pay Item: Fabric for Embankment Stabilization Square Yard