

SECTION 02249

GEOTEXTILE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Geotextile fabric, also called filter fabric, in applications such as a pipe embedment wrap, around the exterior of a tunnel liner, or around the foundations of pipeline structures and slope stabilization.

1.02 UNIT PRICES

- A. No separate payment will be made for work performed under this Section. Include the cost of such work in unit prices for work requiring geotextile, such as pipe embedment, sewer line in tunnel, or placement of manhole foundations, as appropriate.

1.03 SUBMITTALS

- A. Submittals shall conform to the requirements of all sections and provisions of these specifications.
- B. Submit the standard manufacturer's catalog sheets and other pertinent information, for approval, prior to installation.
- C. Submit installation methods, as a part of the work plan for tunneling or for excavation and backfill for utilities. Obtain approval from Owner's Representative for geotextile material and the proposed installation method prior to use of the geotextile.

PART 2 PRODUCTS

2.01 GEOTEXTILE

- A. Provide a geotextile (filter fabric) designed for use in geotechnical applications which forms a permeable layer or media while retaining the soil matrix.
- B. Use a fabric which meets the physical requirements for Class A Subsurface Drainage installation conditions as defined in AASHTO M288 and as specified in paragraph 2.02.

2.02 PROPERTIES

- A. Material: Nonwoven, nonbiodegradable, fabric consisting only of continuous chain polymer filaments or yarns, at least 85 percent by weight polyolefins, polyesters or polyamide, formed into a dimensionally stable network.
- B. Chemical Resistance: Inert to commonly encountered chemicals and hydrocarbons over a pH range of 3 to 12.
- C. Physical Resistance: Resistant to mildew and rot, ultraviolet light exposure, insects and rodents.

D. Minimum Test Values:

| <u>Property</u> | <u>Value (Min.)</u> | <u>Test Method</u> |
|--------------------------------------|---------------------|--------------------|
| Grab Strength | 180 lbs. | ASTM D 4632 |
| Trapezoidal Tear Strength | 50 lbs. | ASTM D 4533 |
| Puncture Strength | 80 lbs. | ASTM D 4833 |
| Mullen Burst Strength | 290 psi. | ASTM D 3786 |
| Apparent Opening Size ⁽¹⁾ | 0.25 mm | ASTM D 4751 |
| Permittivity (sec ⁻¹) | 0.2 | ASTM D 4491 |

⁽¹⁾Maximum average roll value

PART 3 EXECUTION

3.01 LINE WORK

- A. Use geotextile with backfill for utilities in conformance with Section 02227 - Excavation and Backfill for Utilities.

3.02 TUNNEL WORK

- A. Use geotextile outside of a tunnel primary liner to prevent the migration of soil fines into the excavated tunnel resulting in voids or settlement. Conform to Section 02310 - Tunnel Excavation and Primary Liner. Select a geotextile, subject to the minimum requirements of Paragraph 2.02, meeting tunnel liner design requirements and installation conditions.

END OF SECTION