
Part 1 General

1.1 RELATED SECTIONS

- .1 Section 31 23 33 - Excavating, Trenching and Backfilling.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM), referencing latest version.
 - .1 ASTM D4491-17, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D4533-15, Standard Test Method Trapezoid Tearing Strength of Geotextiles
 - .3 ASTM D4751-16, Standard Test Method for Determining Apparent Opening Size of a Geotextile.

1.3 SUBMITTALS

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

- .2 Submit to the Engineer the following samples at least four (4) weeks prior to beginning work.
 - .1 Minimum length of 2 m of roll width of geotextile.
 - .2 Minimum of 1 m seam with at least 300 mm of geotextile on both sides of seam.
- .3 Submit to the Engineer copies of mill test data and certificate at least four (4) weeks prior to start of work, and in accordance with Section 01 33 00 - Submittal Procedures.
- .4 Submit to the Engineer, upon request, the manufacturer's recommended procedures for installation and instructions for handling of the selected geotextile.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.
- .2 Handling of the selected geotextile to be as per manufacturer's recommendations.

Part 2 Products

2.1 MATERIAL

- .1 Woven geotextile for sediment control fence shall be a sheet of woven plastic yarn.
 - .1 Composed of: minimum 85% by mass of polypropylene, polyethylene, polyamide, polyester or polyvinylidene chloride with stabilizers or inhibitors added to the base plastic to make the filaments resistant to deterioration by ultra-violet and heat exposure.

- .1 Physical properties (MARV):

Physical Property	Min. Requirement
Tearing Strength (ASTM D4533-15)	200 N
Grab Tensile Strength (ASTM D4632-15a)	400 N
Elongation at Break (ASTM D4632-15a)	25%
Apparent Opening Size (ASTM D4751-16)	840 µm max.
UV Degradation (ASTM D4355-15)	70% Ret. min.
Permittivity (ASTM D4491-17)	0.01 sec ⁻¹ min.

- .2 Seam strength: Sewn in accordance with manufacturer's recommendations, or lapped a minimum of 600 mm.
- .3 Thread for sewn seams shall be equal or better resistance to chemical and biological degradation than geotextile.
- .4 Sediment control fence may be prefabricated or constructed on site from the specified individual components.

.5 Non-woven geotextile for Structural Fill Pad and Drainage Swales:

.1 Physical properties (MARV):

Physical Property	Min. Requirement
Tearing Strength (Trapezoid Method)	250 N
Grab Tensile Strength (Both Directions)	600 N
Elongation at Break	50%
Apparent Opening Size	50 to 250 μm
UV Degradation	----
Permittivity	1.25 to 2.75 sec^{-1}

Part 3 Execution

3.1 INSTALLATION

.1 Sediment Control Fence:

- .1 Sediment control fence shall be installed as indicated on the drawings and prefabricated sediment control fence shall be installed as per the manufacturer's instructions.
 - .1 In areas of potential sheet flow runoff where construction activity may cause the drainage run-off to transport sediment(s), and the Contract Documents do not provide for sediment control fences in these areas, the Contractor shall ensure that sediment control fences are properly located for effective runoff control.
- .2 The Contractor shall maintain the sediment control fence in a functional condition continuously from the time of installation until the completion of the Contract or removal.
- .3 The Contractor shall inspect all sediment control fences after each rainfall and at least daily during periods of prolonged rainfall.
- .4 The Contractor shall immediately repair any damage to sediment control fences or parts thereof.
- .5 The Contractor shall remove retained sediment prior to it having accumulated to a level approximately but not exceeding one-half the height of the fence, and this sediment shall be disposed of at a location at least 30 m away from any watercourse, and in such a manner that the sediment will not be returned to the work area or the watercourse; or
 - .1 Subject to the approval of the Engineer, the Contractor may install a second backup sediment control fence, at his/her own expense.
- .6 The Contractor shall remove all sediment control fence and the time of such removal shall be subject to the Engineer's approval but in all cases shall occur prior to the completion of the Contract.

- .1 Sediment control fence removed shall become the property of the Contractor and shall be disposed of outside the work site.
- .2 If the Engineer notifies the Contractor in writing, prior to the completion of the Contract, that all or any part of the sediment control fence is to remain in place, the Contractor shall be deemed to have completed his/her obligations for that portion of the sediment control fence under this Item and the sediment control fence shall become the property of the Owner.
- .7 At the time of removal, the Contractor shall excavate any remaining sediment and dispose of it at a location at least 30 m from any watercourse, and in such a manner that the sediment will not be returned to the work area or the watercourse and shall dress and seed the area of the removed fence and sedimentation, to the satisfaction of the Engineer.
 - .1 Over Slope of Type I Structural Fill Pad and Drainage Swale:
 - .1 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position.
 - .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
 - .3 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
 - .4 Overlap each successive strip of geotextile 600 mm over previously laid strip.
 - .5 Join successive strips of geotextile by sewing or overlapping.
 - .6 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
 - .7 After installation, cover with overlying layer within four (4) hours of placement.
 - .8 Replace damaged or deteriorated geotextile to approval of the Engineer.
 - .9 Place and compact soil layers in accordance with Section 31 23 10 – Excavating, Trenching and Backfilling.
 - .10 Extend fabric 300 mm beyond toe of slope of Structural Fill Pad.

3.2 PROTECTION

- .1 Vehicular traffic is not permitted directly on geotextile.

END OF SECTION