

Partie 1 General

1.1 SECTION INCLUDES

- .1 Supply and installation of polymer geotextiles for the construction of protection of the backfill beneath the concrete slab for one or the other of the following purposes:
 - .1 The purpose of geotextiles is to separate and prevent the mixing of granular materials of different grading.
 - .2 To act as hydraulic filters allowing the seeping of water while retaining soil strength of granular structure.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A123/A123M-, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM D4491, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .3 ASTM D4595, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - .4 ASTM D4716, Standard Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
 - .5 ASTM D4751, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2 No. 11.2-2004, Textile Test Methods - Bursting Strength - Ball Burst Test (Reconducted from September 1989).
 - .2 CAN/CGSB-148.1, Methods of Testing Geosynthetics (complete set).
 - .1 Number 2, Methods of Testing Geosynthetics - Mass per Unit Area.
 - .2 Number 3, Methods of Testing Geosynthetics - Thickness of Geotextiles.
 - .3 Number 6.1, Methods of Testing Geosynthetics - Bursting Strength of Geotextiles Under No Compressive Load.
 - .4 Number 7.3, Methods of Testing Geosynthetics - Grab Tensile Test for Geotextiles.
 - .5 Number 10, Methods of Testing Geosynthetics - Geotextiles - Filtration Opening Size.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit required documents and samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data

- .1 Submit required manufacturer's instructions, printed product literature and data sheets for geotextiles and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with this section and manufacturer's written instructions.
- .2 Storage and Handling Requirements
 - .1 Do not place geotextiles directly on the ground.
 - .2 Store geotextiles in a dry, well-ventilated and clean area in accordance with manufacturer's recommendations.
 - .3 Protect geotextiles against direct sunlight and UV rays.
 - .4 Replace defective or damaged materials with new.

Partie 2 Product

2.1 MATERIALS

- .1 Geotextile: geotextiles for the placement of the backfill.
 - .1 Non-woven synthetic fibre fabric, supplied in rolls.
 - .2 Width: at least 3.5 m.
 - .3 Length: at least 25 m.
 - .4 Composed of: minimum 85% by mass of polypropylene with inhibitors added to base plastic to resist deterioration by ultra-violet and heat exposure.
 - .5 Physical properties
 - .1 Thickness: minimum 2.0 mm, to CAN/CGSB-148.1, no. 3-M85.
 - .2 Grab tensile strength and elongation: to CAN/CGSB-148.1, no. 7.3-92.
 - .3 Breaking force: minimum 800 N wet condition.
 - .4 Elongation at break: at least 45-100 %.
 - .5 Tear strength: 360 N
 - .6 Puncture resistance: 450 N
 - .7 Ball burst strength (Mullen): to CAN/CGSB-4.2, No. 11.1-94, minimum 2275 kPa wet condition.
 - .6 Hydraulic properties:
 - .1 Filtration opening size (FOS): to CAN/CGSB-148.1, 10-94.
 - .2 Permeability: 0.25 cm/s
 - .3 Permittivity: 1.5 s⁻¹
 - .7 Factory seams: sewn in accordance with manufacturer's recommendations.
 - .8 Thread for sewn seams: equal or better resistance to chemical and biological degradation than geotextile.

Partie 3 Execution

3.1 EXAMINATION

- .1 Site conditions: prior to undertaking the installation of geotextiles, ascertain that substrates previously prepared by other sections or contracts are acceptable and allow for the performance of work to manufacturers' written instructions.
 - .1 Proceed to visual inspection of surfaces/substrates with Departmental Representative in attendance.
 - .2 Immediately inform Departmental Representative of any unacceptable conditions identified.
 - .3 Proceed with installation only after correcting the unacceptable conditions and receiving written approval of the Departmental Representative.

3.2 PLACEMENT

- .1 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .2 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .3 Overlap each successive strip of geotextile 600 mm over previously laid strip.
- .4 Prevent movement of geotextiles and protect against damage or deterioration before, during and after the placement of protection layers.
- .5 Place the protection layer within four (4) hours following the installation of the geotextiles.
- .6 Replace damaged or deteriorated geotextile to approval of Departmental Representative.

3.3 CLEANING

- .1 Progress cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.

3.4 PROTECTION MEASURES

- .1 Vehicular traffic and machinery not permitted directly on geotextile.

END OF SECTION