

Wharf Reconstruction
Seal Cove White Bay, NL

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PART 1 - GENERAL

1.1 SECTION
INCLUDES

- .1 Materials and installation of polymeric geotextiles, purpose of which is to:
 - .1 Separate and prevent mixing of granular materials of different grading.
 - .2 Act as hydraulic filters permitting passage of water while retaining soil strength of granular structure.

1.2 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 31 53 13 - Timber Cribwork.

1.3 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM D4491-99a(2004)e1, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D4595-05, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - .3 ASTM D4716-04, Standard Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
 - .4 ASTM D4751-04, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2-M88, Textile Test

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Methods.

.2 CAN/CGSB-148.1, Methods of Testing
Geotextiles and Geomembranes.

.1 No.2-M85, Mass per Unit Area.

.2 No.3-M85, Thickness of
Geotextiles.

.3 No.7.3-92, Grab Tensile Test for
Geotextiles.

.4 No.6.1-93, Bursting Strength of
Geotextiles Under No Compressive
Load.

.3 Canadian Standards Association (CSA)

.1 CAN/CSA-G40.20-04/G40.21-04, General
Requirements for Rolled or Welded
Structural Quality Steel.

.2 CAN/CSA-G164-M92(R2003), Hot Dip
Galvanizing of Irregularly Shaped
Articles.

1.4 SAMPLES

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

.2 Submit to Departmental Representative the
following samples at least 2 weeks prior
to commencing work.

.1 Minimum length of 1 m of roll width
of geotextile.

1.5 MILL
CERTIFICATES

.1 Submit to Departmental Representative a
copy of mill test data and certificate at
least 2 weeks prior to start of work.

1.6 DELIVERY AND
STORAGE

.1 During delivery and storage, protect
geotextiles from direct sunlight,
ultraviolet rays, excessive heat, mud,
dirt, dust, debris and rodents.

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1.7 WASTE
MANAGEMENT AND
DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material, in appropriate on-site bins, for recycling in accordance with Waste Management Plan.
- .4 Fold up metal banding, flatten and place in designated area for recycling.

PART 2 - PRODUCTS

2.1 MATERIAL

- .1 Geotextile: woven or non-woven synthetic fibre fabric, supplied in rolls.
 - .1 Width: 3.5 m minimum.
 - .2 Length: 50 m minimum.
 - .3 Composed of: minimum 85% by mass of polyester with inhibitors added to base plastic to resist deterioration by ultra-violet and heat exposure.
- .2 Physical properties:
 - .1 Thickness: to CAN/CGSB-148.1, No.3, minimum 2.5 mm.
 - .2 Mass per unit area: to CAN/CGSB-148.1, No. 2, minimum 400 g/m².
 - .3 Tensile strength and elongation (in any principal direction): to ASTM D4595.

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- .1 Tensile strength: minimum 1200 N, wet condition.
- .2 Elongation at break: 50 to 100 percent.
- .3 Seam strength: equal to or greater than tensile strength of fabric.
- .4 Mullen burst strength: to CAN/CGSB-4.2, method 11.1, minimum 3100 kPa.
- .3 Hydraulic properties:
 - .1 Apparent opening size (AOS): to ASTM D4751, 50 to 150 micrometres.
 - .2 Permittivity: to ASTM D4491, 0.25 cm per second.
- .4 Securing pins and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped galvanized with minimum zinc coating of 600 g/m² to CAN/CSA G164.

PART 3 - EXECUTION

3.1| INSTALLATION

- .1 Place one (1) layer of geotextile material from base elevation of crib to top of crib and retain in position with securing pins and washers.
- .2 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with securing pins and washers.
- .3 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile ('key-in" geotextile at toe).
- .4 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.

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- .5 Overlap each successive strip of geotextile 600 mm over previously laid strip.
- .6 Join successive strips of geotextile by sewing.
- .7 Pin successive strips of geotextile with securing pins at mid point of lap to satisfaction of Departmental Representative.
- .8 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .9 After installation, cover with overlying layer within 4 hours of placement.
- .10 Replace damaged or deteriorated geotextile to approval of Departmental Representative.

3.2 CLEANING

- .1 Remove construction debris from Project site and dispose of debris in an environmentally responsible and legal manner.

3.3 PROTECTION

- .1 Vehicular traffic not permitted directly on geotextile.