

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Materials and installation of polymeric geotextiles used in timber cribbing, 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 23 26 - Rock Fill and Class "A".
- .4 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 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 two (2) weeks
prior to commencing Work.

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

1.5 MILL
CERTIFICATES

- .1 Submit to Departmental Representative a copy of mill test data and certificate at least two (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.

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.

1.8 MEASUREMENT FOR
PAYMENT

- .1 No measurement for payment is intended for the supply and installation of geotextiles as

indicated on the project drawings.

PART 2 - PRODUCTS

2.1 MATERIAL

- .1 Geotextile: woven or non-woven synthetic fibre fabric, supplied in rolls.
 - .1 Width: 3.5m minimum.
 - .2 Length: 50m 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 2.5mm.
 - .2 Mass per unit area: to CAN/CGSB-148.1, No. 2, minimum 400g/m².
 - .3 Tensile strength and elongation (in any principal direction): to ASTM D4595.
 - .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 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.
- .4 Place geotextile material smooth
and free of tension stress,
folds, wrinkles, and creases.
- .5 Overlap each successive strip of
geotextile 600 mm over previously
laid strip.
- .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 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.

END OF SECTION