

SPECIFICATIONS FOR SUPPLY AND INSTALLATION OF GEOTEXTILE FABRIC1295.1. Scope

These specifications govern all operations necessary for, and pertaining to, the installation of geotextile fabrics for separation and reinforcement, under riprap, and as a bituminous overlay component.

3. Materials

These specifications apply to woven and non-woven geotextiles. The geotextiles must be approved as identified on the Department's Products Standards List or be approved for use by the Department.

The type of geotextile(s) to be used shall be identified in the Special Provisions.

Each geotextile roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes.

Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultra-violet exposure prior to placement. If stored outdoors, they shall be elevated and protected with a waterproof cover.

7. Construction Methods

7.1 Separation and Reinforcement

7.1.1 Surface Preparation

The Contractor shall prepare the surface, in advance of placing the geotextile, to achieve a smooth, even surface, clear of any aggregates or debris, and constructed to the cross-section and profile indicated on the plans.

7.1.2 Geotextile Placement

The geotextile shall be rolled onto the roadway free of wrinkles, rolls, or bulges. All seams shall be sewn by an approved method or overlapped a minimum of 500 mm.

The geotextile shall not be dragged across the roadway. Geotextile shall not be rolled out more than 40 m ahead of the placement of the fill material and shall be overlapped both side to side and end to end in the direction of the fill material placement. The required width of geotextile and the minimum overlap shall be maintained during road construction.

Should the roadway be required to remain open, installation of the geotextile shall be on one-half of the roadway at a time.

7.1.3 Damage to Geotextile

If the geotextile is damaged, torn, or punctured during installation or placement of the fill material, the damaged section shall be repaired at the Contractor's expense. The damaged section shall be exposed and a patch of geotextile placed over the damaged section. Where the patch is not sewn it shall be large enough to overlap 500 mm onto the undamaged geotextile. Any fill material on the damaged area shall be replaced and compacted to the required standard.

1295 7.1.3 Damage to Geotextile (Cont'd)

Fill material shall be placed, spread, and compacted on the geotextile. The fill material shall be end-dumped onto the ground in front of the leading edge of the geotextile and leveled using a track type dozer to a uniform lift thickness of no less than 150 mm or as directed by the Engineer. Initial compaction shall be achieved by walking a track dozer back and forth over the lift. Subsequent loads shall be dumped onto previously spread fill material. Dumping of fill material directly on the geotextile will not be permitted. The use of "belly-dump" type trucks or any other vehicles will not be allowed on the geotextile.

7.2 Geotextile Under Rip-Rap

7.2.1 Surface Preparation

The ground surface shall be shaped neatly and trimmed to the lines as shown on the plans or as staked by the Engineer in the field prior to the placing of any geotextile. Ground surface preparation shall be incidental to the Supply and Installation of Geotextile Fabric.

7.2.2 Geotextile Placement

The geotextile shall be placed and temporarily anchored in such a manner that placement of the riprap will not excessively stretch or tear the fabric and such that seam overlaps will be maintained. Stones, staples, steel pins with washers, or other means approved by the Engineer shall be used as necessary to temporarily anchor the geotextile. Temporary anchoring shall be incidental to the Supply and Installation of Geotextile Fabric.

All seams shall be sewn by an approved method or overlapped a minimum of 500 mm in the direction of the flow of water (shingle style).

Terminal sides and ends of the geotextile shall be anchored as shown on the plans or as directed by the Engineer in the field.

Riprap shall be placed on the geotextile in such a manner that the geotextile is not damaged, torn, excessively stretched, or punctured. Any geotextile damaged during installation or placement of the riprap shall be repaired at the Contractor's expense. The damaged section shall be exposed and a patch of geotextile placed over the damaged section. The patch shall be large enough to be sewn, or, overlapped 500 mm onto the undamaged geotextile.

Riprap placement shall begin at the toe and shall proceed up the slope.

7.3 Geotextile Under a Bituminous Overlay

7.3.1 Surface Preparation

The existing pavement shall be clean and free of dust, dirt, vegetation and moisture. Cracks larger than 6.3 mm shall be cleaned and filled with approved crack sealant. Potholes shall be recompacted in the base course, filled with asphalt and treated with tack coat. Crack sealing, and filling of potholes as described herein, shall be considered as incidental to the unit price for "Supply and Installation of Geotextile Fabric".

1295 7.3.2 Tack Coat Application

The rate of tack coat required to saturate the geotextile shall be determined in the field by a test section. The tack coat shall be applied by a distributor truck in a smooth and uniform manner at a temperature below 149°C. The tack shall be sprayed a minimum of 150 mm wider than the width of the paving fabric and the tack coat must be adequately cured before fabric placement. Supply and installation of tack coat, as described herein, shall be considered as incidental to the unit price for "Supply and Installation of Geotextile Fabric".

7.3.3. Installation of Paving Fabric

The geotextile shall be placed when the tack coat is still warm and tacky. Installation may be done manually or with fabric installation units. Pressures should be light and the vehicle should be driven as straight as possible to assure a smooth and wrinkle-free installation. A lightweight metal tube shall be inserted inside the geotextile core to prevent bowing. Wrinkles less than 13 mm shall be removed by hand brooming. Wrinkles larger than 13 mm must be carefully slit with a knife and overlapped in the direction of paving. Additional tack coat must be applied between the layers. All seams must be overlapped a minimum of 75 mm along roll edges and 150 mm at roll ends.

7.3.4. Paving Operation

If the geotextile becomes wet during installation, it must be allowed to dry completely before paving. Wet fabric shall not be opened to traffic.

9. Method of Measurement

Supply and installation of geotextile fabric will be measured for payment in square metres. Quantities to be paid shall be determined by actual ground area covered by geotextile fabric. Where the Engineer specifies an overlap greater than the specified minimum, the additional overlap area will be included in the measurements for payment.

Geotextile used for repairs will be excluded from the final quantity paid.

11. Basis of Payment

The unit price set forth for "Supply and Installation of Geotextile Fabric" will be the total amount paid to the Contractor for each square metre of ground area covered as specified herein and will be payment in full for supplying and installing the geotextile and for performing all operations necessary or incidental thereto.