November 1, 2012

REVISION OF SECTION 712

GEOTEXTILES

**NOTICE**

This is a standard special provision that revises or modifies CDOT’s *Standard Specifications for Road and Bridge Construction.* It has gone through a formal review and approval process and has been issued by CDOT’s Project Development Branch with formal instructions for its use on CDOT construction projects. It is to be used as written without change. Do not use modified versions of this special provision on CDOT construction projects, and do not use this special provision on CDOT projects in a manner other than that specified in the instructions unless such use is first approved by CDOT’s Standards and Specifications Unit. The instructions for use on CDOT construction projects appear below.

Other agencies which use the *Standard Specifications for Road and Bridge Construction* to administer construction projects may use this special provision as appropriate and at their own risk.

**Instructions for use on CDOT construction projects:**

Use in projects having geotextiles or geosynthetics.

Section 712 of the Standard Specifications is hereby revised for this project as follows:

In subsection 712.08, delete the third and fourth paragraphs and replace with the following:

Physical requirements for all geotextiles shall conform to the requirements of AASHTO M-288. Materials shall be selected from the New York Department of Transportation’s Approved Products List of Geosynthetic materials that meet the National Transportation Product Evaluation Program (NTPEP) and AASHTO M-288 testing requirements. The current list of products that meet these requirements is located at:

[www.dot.ny.gov](http://www.dot.ny.gov)

The Geotextile Approved Products List may be accessed by clicking on the following tabs once on the NYDOT site to:

1. A To Z Site Index
2. Approved List
3. Approved Products
4. Materials and Equipment
5. Geosynthetics for Highway Construction
6. Geotextiles

In subsection 712.08, delete Table 712-2 and replace with the following

**Table 712-2**

**TYPICAL VALUES OF PERMEABILITY COEFFICIENTS1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Turbulent Flow** | **Particle****Size Range****Millimeters (inches)** | **Effective****Size** | **Permeability****Coefficient k****cm/s** |
| **D max** | **D min** | **D 20 mm (inches)** |
| Derrick STONE | 3000 (120) | 900 (36) | 1200 (48) | 100 |
| One-man STONE | 300 (12) | 100 (4) | 150 (6) | 30 |
| Clean, fine to coarse GRAVEL | 80 (3) | 10 (¼) | 13 (½) | 10 |
| Fine, uniform GRAVEL | 8 (⅜) | 1.5 (1/16) | 3 (⅛) | 5 |
| Very coarse, clean, uniform SAND | 3 (⅛) | 0.8 (1/32) | 1.5 (1/16) | 3 |
| **Laminar Flow** |  |  |  |  |
| Uniform, coarse SAND | 2 (⅛) | 0.5 (1/64) | 0.6 | 0.4 |
| Uniform, medium SAND | 0.5 | 0.25 | 0.3 | 0.1 |
| Clean, well-graded SAND & GRAVEL | 10 | 0.05 | 0.1 | 0.01 |
| Uniform, fine SAND | 0.25 | 0.05 | 0.06 | 40 x 10-4 |
| Well-graded, silty SAND & GRAVEL | 5 | 0.01 | 0.02 | 4 x 10-4 |
| Silty SAND | 2 | 0.005 | 0.01 | 1.0 x 10-4 |
| Uniform SILT | 0.05 | 0.005 | 0.006 | 0.5 x 10-4 |
| Sandy CLAY | 1.0 | 0.001 | 0.002 | 0.05 x 10-4 |
| Silty CLAY | 0.05 | 0.001 | 0.0015 | 0.01 x 10-4 |
| CLAY (30% to 50% clay sizes) | 0.05 | 0.0005 | 0.0008 | 0.001 x 10-4 |
| Colloidal CLAY (-2 μm 50%) | 0.01 | 10 | 40 | 10-9 |
| 1 Basic Soils Engineering, R.K. Hough, 2nd Edition, Ronald Pess Co.; 1969, Page 76.Note: Since the permeability coefficient of the soil will be unknown in most non-critical, non-severe applications for erosion control and drainage, the soil-permeability coefficients listed in Table 712-2 may be used as a guide for comparing the permeability coefficient of the fabric with that of the in-place soil |