

**New Hampshire Department of Transportation
Bureau of Materials & Research**

Qualified Products List – Qualification Criteria

Section 593 – Geotextile

A. ITEM 593.ABC – GEOTEXTILES

Specification – NHDOT Standard Specifications for Road and Bridge Construction, Section 593.

Geotextile shall be a product tested under the AASHTO National Transportation Product Evaluation Program (NTPEP) and included on the Qualified Products List for the Application, Strength Class, and Structure specified. Manufacturers of geotextiles and those marketing geotextiles made by others as a “Private Labeler” shall participate in and maintain compliance with the NTPEP audit program for geotextiles. Manufacturer’s labels providing product name, AASHTO M288 class, roll number, and production date shall be affixed to both ends of the roll.

Geotextiles shall conform to the applicable sections of AASHTO M 288 as outlined in Section 593 and referenced below.

Fibers used in the manufacture of geotextiles, and threads used in joining geotextiles by sewing, shall meet the most current requirements in the applicable sections of AASHTO M 288.

Geotextile shall exhibit an ultraviolet stability (retained strength) of at least 50% after 500 hours of exposure, measured in accordance with ASTM D 4355.

Required Submissions

QPL Product Submittal Form

The submittal form must be completely filled out and must be the current version of the form. The QPL Product Submittal Form can be obtained at www.nh.gov/dot/research.

Product Literature

Submit any product literature that is relevant to evaluation of the product. Products will be considered only for the Application(s) recommended by the manufacturer in the submittal.

Letter of Compliance

Submit a notarized letter, on the manufacturer’s letterhead, that affirms that the product meets all requirements described herein. This letter must include certified minimum average roll values (MARV) demonstrating that the geotextile meets all specification requirements.

NTPEP Test Results

As part of the evaluation, the Department will obtain and review test results from the AASHTO National Transportation Product Evaluation Program (NTPEP). Visit www.ntpep.org for information about submitting products to this program.

Qualification Criteria

Geotextiles that have not been tested by the NTPEP program will not be evaluated. NTPEP provides for retesting of geotextiles on a 3-year basis. Expiration of NTPEP test results may result in disqualification of the product.

The Department will compare the certified MARV values for conformance with the specification.

The Department will compare the published NTPEP test results for conformance with the specification.

Table 1 - Geotextile Strength Property Requirements

Strength Class	Grab Tensile Strength ASTM D 4632 (In pounds)		Trapezoidal Tear Strength ASTM D 4533 (In pounds)		Puncture Strength ASTM D 6241 (In pounds)	
	Elongation < 50%	Elongation ≥ 50%	Elongation < 50%	Elongation ≥ 50%	Elongation < 50%	Elongation ≥ 50%
0 Ex. High Strength	N/A	375	N/A	135	N/A	1000
1 High Strength	315	202	112	79	618	433
2 Med. Strength	247	157	90*	56	495	309
3 Low Strength	180	112	67	40	371	223

Note Regarding Elongation values: Typically, geotextiles w/ elongation < 50% are associated with woven fabrics and those w/ Elongation ≥ 50% are associated with non-woven fabrics.

** The required Class 2 tear strength for woven monofilament is 56 lb.*

Table 2 - Permittivity and Apparent Opening Size (AOS) Requirements

Application	Required Geotextile Property	
	Permittivity (sec ⁻¹)	Apparent Opening Size (AOS) (mm)
1 - Subsurface Drainage	0.70 min.	0.22 max.
2 - Separation	0.05 min.	0.43 max.
3 - Stabilization	0.05 min.	0.43 max.
4 - Permanent Erosion Control	0.70 min.	0.22 max.

Note: The minimum Permittivity and maximum AOS values noted above are determined based on worst case soil conditions shown on applicable tables in AASHTO M 288.

Table 1 includes the basic Strength Classes of geotextile and the corresponding qualification criteria. Required strength is a function of fabric elongation, as measured in accordance with ASTM D 4632.

Table 2 includes the basic Applications for geotextile and the corresponding permittivity and apparent opening size qualification criteria.

Only non-woven geotextiles will be qualified for Applications 1 and 4. Only geotextiles meeting Strength Class 0, 1, or 2 will be qualified for Application 4.

Only non-woven geotextiles will be qualified for Extra High Strength, "Class 0" use.

Both woven and non-woven geotextiles may be qualified for Applications 2 and 3.

Woven geotextiles that are made of both slit filament and monofilament will be evaluated as slit filament products for the purposes of qualification.

Qualification Criteria Approved by:



Chief of Materials Technology, Bureau of Materials & Research



Administrator, Bureau of Materials & Research

The Department continues to evaluate its qualification criteria as well as products that have been qualified against them, and reserves the right to revise the criteria and/or withdraw product qualification at any time for any reason without notice.

Qualification of a product does not constitute an endorsement of the product, nor does it imply intent to purchase or specify the product.