



**GEOTEX<sup>®</sup> 451** is a polypropylene, staple fiber, needlepunched nonwoven geotextile produced by Propex, and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The fibers are needled to form a stable network that retains dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils.

**GEOTEX 451** conforms to the property values listed below<sup>1</sup>. Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). This product is NTPEP approved for AASHTO standards.

| MARV <sup>2</sup>                           |             |                                    |                                      |
|---------------------------------------------|-------------|------------------------------------|--------------------------------------|
| PROPERTY                                    | TEST METHOD | ENGLISH                            | METRIC                               |
| <b>ORIGIN OF MATERIALS</b>                  |             |                                    |                                      |
| % U.S. Manufactured Inputs                  |             | 100%                               | 100%                                 |
| % U.S. Manufactured                         |             | 100%                               | 100%                                 |
| <b>PHYSICAL</b>                             |             |                                    |                                      |
| Mass/ Unit Area                             | ASTM D-5261 | 4.0 oz/yd <sup>2</sup>             | 135 g/m <sup>2</sup>                 |
| <b>MECHANICAL</b>                           |             |                                    |                                      |
| Tensile Strength (Grab)                     | ASTM D-4632 | 100 lbs                            | 445 N                                |
| Elongation                                  | ASTM D-4632 | 60%                                | 60%                                  |
| CBR Puncture                                | ASTM D-6241 | 250 lbs                            | 1112 N                               |
| Trapezoidal Tear                            | ASTM D-4533 | 45 lbs                             | 200 N                                |
| <b>ENDURANCE</b>                            |             |                                    |                                      |
| UV Resistance<br>% Retained at 500 hrs      | ASTM D-4355 | 70%                                | 70%                                  |
| <b>HYDRAULIC</b>                            |             |                                    |                                      |
| Apparent Opening Size<br>(AOS) <sup>3</sup> | ASTM D-4751 | 70 US Std. Sieve                   | 0.212 mm                             |
| Permittivity                                | ASTM D-4491 | 1.8 sec <sup>-1</sup>              | 1.8 sec <sup>-1</sup>                |
| Water Flow Rate                             | ASTM D-4491 | 120 gpm/ft <sup>2</sup>            | 4889 l/min/m <sup>2</sup>            |
| <b>ROLL SIZES</b>                           |             |                                    |                                      |
|                                             |             | 12.5 ft x 360 ft<br>15 ft x 360 ft | 3.81 m x 109.8 m<br>4.57 m x 109.8 m |

**NOTES:**

1. The property values listed above are effective 04/2011 and are subject to change without notice.
2. Values shown are in weaker principal direction. Minimum average roll values (MARV) are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
3. Maximum average roll value.



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