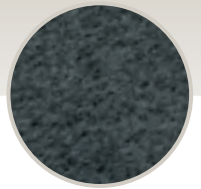


# GEOTEX® NONWOVEN GEOTEXTILES



Made from the highest quality polypropylene fibers, our Geotex® nonwoven geotextiles are needlepunched to form a strong fabric that retains its dimensional stability, adding years to the life of any roadway, railroad, landfill or civil/environmental engineering project. Used in subsurface drainage, separation, stabilization, erosion control and cushioning applications, our geotextiles are resistant to ultraviolet (UV) degradation and to biological and chemical environments normally found in soils.

## FEATURES & BENEFITS

- ▶ Mass per unit areas range from 3 to 17 oz/yd<sup>2</sup> (100 to 575 g/m<sup>2</sup>) to guarantee an available product for every application (heavier products may be available by special order)
- ▶ Superior chemical resistance in even the most aggressive environmental applications
- ▶ Staple fibers needlepunched together to form a sturdy fabric capable of withstanding construction installation stresses
- ▶ Contains additives for maximum UV resistance
- ▶ Produced at some of the largest, state-of-the-art production facilities to assure uniform product quality

**Outperforms and is more cost effective than conventional methods, including:**

- ▶ Thicker aggregate layers
- ▶ Undercutting and removal
- ▶ Chemical stabilization
- ▶ Graded, granulated filters

## GEOTEX® NONWOVEN GEOTEXTILES PRODUCT FAMILY TABLE

CIVIL	ENVIRONMENTAL
GEOTEX® 311	GEOTEX® 651
GEOTEX 351	GEOTEX 861
GEOTEX 401	GEOTEX 1071
GEOTEX 451	GEOTEX 1291
GEOTEX 501	GEOTEX 1701
GEOTEX 601	
GEOTEX 701	
GEOTEX 801	
GEOTEX 1001	
GEOTEX 1071	
GEOTEX 1201	
GEOTEX 1601	

You can plan and implement road designs that will lower the cost and extend the life of your pavement—and our Roadways And Civil Engineering (R.A.C.E.) software can help. Download it today at [geotextile.com](http://geotextile.com).



Geotex® nonwoven geotextiles can be deployed directly on a soft, saturated subgrade.



Wrapping a subsurface drainage system with a Geotex® nonwoven geotextile will improve roadway life.



Robust Geotex® nonwovens stabilize subgrades and prevent the fouling of ballast beneath railway track.



Geotex® heavyweight nonwoven geotextiles allow the construction of landfill drainage layers without fear of liner damage.

# GEOTEX® NONWOVEN GEOTEXTILES

## APPLICATION RECOMMENDATIONS FOR GEOTEX® NONWOVEN GEOTEXTILES

	APPLICATION	ORGANIZATION/REFERENCE #	CATEGORY	GEOTEX® STYLE
CIVIL	PERMANENT EROSION CONTROL	AASHTO M288-05/FHWA FP-03	CLASS 1/TYPE IV (A-C) CLASS 2/TYPE IV (D-F)	GEOTEX® 801 GEOTEX 601
	DRAINAGE	AASHTO M288-05/FHWA FP-03	CLASS 2/TYPE I (A-C) CLASS 3/TYPE I (D-F)	GEOTEX 601 GEOTEX 401
	ROADWAY SEPARATION	AASHTO M288-05/FHWA FP-03	CLASS 1/TYPE II (A) CLASS 2/TYPE II (B) CLASS 3/TYPE II (C)	GEOTEX 801 GEOTEX 601 GEOTEX 401
	ROADWAY STABILIZATION	AASHTO M288-05/FHWA FP-03	CLASS 1/TYPE III (A) CLASS 2/TYPE III (B)	GEOTEX 801 GEOTEX 601
	RAILROAD STABILIZATION	AREMA/CH. 1, PART 10	REGULAR HEAVY EXTRA HEAVY	GEOTEX 1201 GEOTEX 1601 GEOTEX 1701
ENVIRONMENTAL	GEOMEMBRANE LINER PROTECTION	—	—	GEOTEX 861-1701
	GAS VENTING	—	—	GEOTEX 861-1701
	LANDFILL LEACHATE COLLECTION	EPA/GRI REPORT NO. 15	—	GEOTEX 651 GEOTEX 861
	LANDFILL DRAINAGE SYSTEMS	—	—	GEOTEX 651

NOTES: · AASHTO: American Association of State Highway Transportation Officials · AREMA: American Railway Engineering and Maintenance Association  
· GRI: Geosynthetics Research Institute · EPA: Environmental Protection Agency

## GEOTEX® NONWOVEN CIVIL GEOTEXTILES PROPERTY TABLE<sup>1</sup> ENGLISH & METRIC UNITS

	PROPERTY	TEST METHOD	VALUE <sup>3</sup>	UNIT	311	351	401	451	501	601	701	801	1001	1071	1201	1601							
MECHANICAL	GRAB TENSILE STRENGTH	ASTM D-4632	MARV	lb N	80 356	95 423	115 512	120 534	140 623	160 712	180 801	205 912	250 1112	270 1202	300 1335	380 1691							
	GRAB ELONGATION	ASTM D-4632	MARV	%	50	50	50	50	50	50	50	50	50	50	50	50	50						
	PUNCTURE STRENGTH	ASTM D-4833	MARV	lb N	50 222	55 245	65 289	65 289	85 378	85 378	100 445	110 490	150 668	160 712	175 779	240 1068							
	CBR PUNCTURE	ASTM D-6241	MARV	lb N	210 934	260 1157	310 1379	335 1490	360 1601	410 1824	460 2046	525 2335	625 2780	725 3225	825 3670	1025 4559							
	MULLEN BURST	ASTM D-3786	MARV	psi kPa	150 1034	185 1275	210 1448	230 1586	280 1930	280 1930	330 2275	350 2413	460 3171	520 3585	580 3999	750 5170							
TRAPEZOIDAL TEAR	ASTM D-4533	MARV	lb N	30 134	40 178	50 222	50 222	60 267	60 267	75 334	80 356	100 445	105 467	115 512	150 668								
HYDRAULIC	APPARENT OPENING SIZE (AOS)	ASTM D-4751	MaxARV	US Sieve mm	50 0.300	50 0.300	70 0.212	70 0.212	70 0.212	70 0.212	70 0.212	80 0.180	100 0.150	100 0.150	100 0.150	100 0.150							
	PERMITTIVITY	ASTM D-4491	MARV	sec <sup>-1</sup>	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.0	0.7							
	WATER FLOW RATE	ASTM D-4491	MARV	gpm/ft <sup>2</sup> l/min/m <sup>2</sup>	150 6112	150 6112	140 5704	120 4889	115 4686	110 4480	110 4480	110 4480	85 3463	85 3463	75 3056	50 2037							
ENDURANCE	UV RESISTANCE	ASTM D-4355	MARV	% Retained @ 500 hours	70	70	70	70	70	70	70	70	70	70	70	70							
PACKAGING	ROLL WIDTH	MEASURED	TYPICAL	ft m	12.5 3.81	15 4.57	12.5 3.81	15 4.57	12.5 3.81	15 4.57	12.5 3.81	15 4.57	12.5 3.81	15 4.57	15 4.57	15 4.57	15 4.57						
	ROLL LENGTH	MEASURED	TYPICAL	ft m	360 109.8	360 109.8	360 109.8	360 109.8	360 109.8	360 109.8	360 109.8	300 91.5	360 109.8	300 91.5	300 91.5	300 91.5	300 91.5						
	ROLL WEIGHT	CALCULATED	TYPICAL	lb kg	122 55	143 65	141 64	168 76	156 71	187 85	165 75	191 87	211 96	210 95	213 97	242 110	245 111	264 120	264 120	325 147	372 169	405 184	545 247
	ROLL AREA	MEASURED	TYPICAL	yd <sup>2</sup> m <sup>2</sup>	500 418	600 502	500 418	600 502	500 418	600 502	500 418	600 502	500 418	500 418	500 418	500 418	500 418	500 418	500 418	500 418	500 418	500 418	500 418

NOTES: 1. The property values listed are effective 06/2009 and are subject to change without notice. 2. Values reported in weaker principal direction. 3. All values listed are Minimum Average Roll Values (MARV) unless otherwise noted, calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will exceed the value reported. Maximum Average Roll Values (MaxARV) represents typical plus two standard deviations. 4. Underlined styles meet and/or exceed the American Association of State Highway Transportation Officials (AASHTO) M288-05 specifications.

## GEOTEX® NONWOVEN ENVIRONMENTAL GEOTEXTILES PROPERTY TABLE<sup>1</sup>

ENGLISH & METRIC UNITS

	PROPERTY	TEST METHOD	VALUE <sup>3</sup>	UNIT	651	861	1071	1291	1701
MECHANICAL	GRAB TENSILE STRENGTH	ASTM D-4632	MARV	lb N	170 756	220 979	270 1202	320 1424	390 1736
	GRAB ELONGATION	ASTM D-4632	MARV	%	50	50	50	50	50
	PUNCTURE STRENGTH	ASTM D-4833	MARV	lb N	110 490	135 601	160 712	210 934	250 1112
	CBR PUNCTURE	ASTM D-6241	MARV	lb N	435 1935	575 2558	725 3225	925 4115	1125 5004
	MULLEN BURST	ASTM D-3786	MARV	psi kPa	330 2275	420 2895	520 3585	620 4274	800 5515
	TRAPEZOIDAL TEAR	ASTM D-4533	MARV	lb N	70 312	95 423	105 467	125 556	155 690
HYDRAULIC	APPARENT OPENING SIZE (AOS)	ASTM D-4751	MaxARV	US Sieve mm	70 0.212	80 0.180	100 0.150	100 0.150	100 0.150
	PERMITTIVITY	ASTM D-4491	MARV	sec <sup>-1</sup>	1.5	1.5	1.2	0.8	0.7
	PERMEABILITY	ASTM D-4491	MARV	cm/sec	0.24	0.38	0.30	0.29	0.27
	WATER FLOW RATE	ASTM D-4491	MARV	gpm/ft <sup>2</sup> l/min/m <sup>2</sup>	110 4480	110 4480	85 3463	60 2445	50 2037
PHYSICAL	MASS PER UNIT AREA	ASTM D-5261	MARV	oz/yd <sup>2</sup> g/m <sup>2</sup>	6.0 203	8.0 271	10.0 339	12.0 407	16.0 542
	THICKNESS	ASTM D-5199	MARV	mils mm	80 2.0	90 2.3	105 2.7	115 2.9	165 4.2
ENDURANCE	UV RESISTANCE	ASTM D-4355	MARV	% Retained @ 500 hours	70	70	70	70	70
PACKAGING	ROLL WIDTH	MEASURED	TYPICAL	ft m	15 4.57	15 4.57	15 4.57	15 4.57	15 4.57
	ROLL LENGTH	MEASURED	TYPICAL	ft m	300 91.5	300 91.5	300 91.5	300 91.5	300 91.5
	ROLL WEIGHT	CALCULATED	TYPICAL	lb kg	235 107	291 132	372 169	434 197	577 262
	ROLL AREA	MEASURED	TYPICAL	yd <sup>2</sup> m <sup>2</sup>	500 418	500 418	500 418	500 418	500 418

NOTES: 1. The property values listed are effective 06/2009 and are subject to change without notice. 2. Values reported in weaker principal direction. 3. All values listed are Minimum Average Roll Values (MARV) unless otherwise noted, calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will exceed the value reported. Maximum Average Roll Values (MaxARV) represents typical plus two standard deviations.

### KEY PROPERTIES OF GEOTEX® NONWOVEN GEOTEXTILES

- ▶ Mass Per Unit Area: Relevant in the design of geomembrane liner protection, this value often “qualifies” a nonwoven geotextile.
- ▶ Puncture Strength: Especially during construction, the geotextile must withstand pressures applied from surrounding aggregate.
- ▶ Apparent Opening Size: A measurement of the opening sizes of the geotextile, this property is used when selecting the correct filter.
- ▶ Permittivity: This value is a measure of the geotextile’s ability to pass water. When multiplied by the thickness, you can determine the permeability of the geotextile.

For downloadable documents like construction specifications, installation guidelines, case studies and other technical information, please visit our web site at [geotextile.com](http://geotextile.com). These documents are available in easy-to-use Microsoft® Word format.



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