



GEOTEXTILES PRODUCT DATA

FOR MORE INFORMATION

Geosynthetics magazine has provided information on the geotextile specification charts for comparative purposes only. Designers should contact manufacturers for additional details and to discuss site-specific considerations.

Information on the use and specification of geotextiles is also available from the Geosynthetic Materials Association (GMA).

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PUBLISHER'S NOTE

Geosynthetics magazine compiled all information included in the *Geosynthetics 2019 Specifier's Guide* from information submitted by firms in the geosynthetics industry. Companies provided specifications voluntarily, and specification accuracy is the responsibility of the manufacturer. The appearance of a listing in this directory is not an endorsement of the company or product by *Geosynthetics* magazine or the Industrial Fabrics Association International (IFAI). The *Geosynthetics 2019 Specifier's Guide* is intended as a guide, and *Geosynthetics* magazine and IFAI encourage readers to contact the companies listed for further information.

Manufacturers engineer these products to provide cost-effective solutions and to meet specific design requirements for separation, reinforcement, filtration, drainage and protection applications.

Although engineers have developed numerous applications for geotextiles, there are five major functions: separation, reinforcement, filtration, drainage and protection. The major geotextile classifications are woven, nonwoven and knitted. Generally, woven fabrics exhibit high tensile strength, high modulus and low elongation. Needle-punched nonwoven fabrics typically have high permeability as a result of high porosity and conformability because of their high elongation characteristics. Thermally spun, bonded, nonwoven fabrics typically have high modulus, compared to needle-punched nonwoven fabrics, and high conformability. Depending on the manufacturing process, knitted geotextiles can offer high tensile strength and elasticity.

Geotextiles are available in a variety of structures and polymer compositions designed to meet a wide range of applications. It is important that all geotextiles be composed of strong, durable, chemically inert polymeric materials that are resistant to the effects of site-specific ground conditions, weather and aging.

In permanent installations, long-term material performance is a result of the polymer structure's durability. Depending on the application, geotextiles may have other survivability requirements, such as creep resistance and resistance to temperature and/or ultraviolet exposure.

The numbers

Companies that submitted product data chart lines were asked to provide data determined through industry-accepted testing methods. Companies signed a certificate of compliance verifying the accuracy of this data.

GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications									Reinforcement Applications						Other Manufacturer's Suggested Applications [8]
		Filtration/Hydraulic Properties			Physical Properties						Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%				Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]					
										MD	XD	MD	XD				

ACE Geosynthetics Inc. | www.geoace.com

ACETex ES520 (W/PP)	NP	NP	0.425 (40)	1.10/3300 (80), CH	10.0 (2245)	1.0 x 1.0 (225 x 225)	2.5 x 2.5 (560 x 560)/ NP	1, 2, 3	SP, ST	35 (200)	45 (257)	70 (400)	70 (400)	NP	NP	F, R, SP, ST
ACETex ES710 (W/PP)	NP	NP	0.425 (40)	0.4/1200 (29), CH	9.0 (2021)	NP	2.0 x 2.0 (449 x 449)/ NP	1, 2, 3	SP, ST	45 (257)	60 (343)	70 (400)	70 (400)	NP	NP	F, R, SP, ST
ACETex GT500-II (W/PET)	NP	NP	NP	NP	NP	NP	NP	NP	ST	NP	NP	500 (2860)	500 (2860)	336 (22995)	289 (19778)	R, SP, ST
ACETex GT1400-I (W/PET)	NP	NP	NP	NP	NP	NP	NP	NP	ST	490 (2800)	NP	1400 (8000)	100 (570)	940 (64331)	810 (55434)	R

AGRU America Inc. | www.agruamerica.com

Agrutex 041 (NW-P/PP)	136 (4)	NA	0.212 (70)	1.8/CH 5467 (135)	1.5 (335)	0.223 (50)	0.445 (120)/50	3	D, SP	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P
Agrutex 061 (NW-P/PP)	203 (6)	NA	0.212 (70)	1.5/CH 4479 (110)	1.9 (435)	0.289 (65)	0.756 (170)/50	2, 3	D, SP, ST	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P
Agrutex 081 (NW-P/PP)	271 (8)	NA	0.180 (80)	1.3/CH 3895 (95)	2.7 (600)	0.423 (95)	0.979 (220)/50	1, 2, 3	F, E, SP, ST	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P, R
Agrutex 101 (NW-P/PP)	339 (10)	NA	0.150 (100)	1.1/CH 3280 (80)	3.2 (725)	0.467 (105)	1.20 (270)/50	1, 2, 3	F, E, SP, ST	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P, R
Agrutex 121 (NW-P/PP)	401 (12)	NA	0.150 (100)	1.0/CH 2870 (60)	4.1 (925)	0.556 (125)	1.42 (320)/50	1, 2, 3	F, E, SP, ST	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P, R
Agrutex 161 (NW-P/PP)	544 (16)	NA	0.150 (100)	0.7/CH 2050 (50)	5.0 (1125)	0.668 (150)	1.74 (390)/50	1, 2, 3	F, E, SP, ST	NA	NA	NA	NA	NA	NA	S/T, S/P, F, D, E, P, R

Belton Industries Inc. | www.beltonindustries.com

Beltech 315, (W-SF/PP)	223 (6.6) Typical	NA	0.50 (35)	0.02/63 (1.5), FH	5.19 (1167)	0.84 x 0.66 (153 x 122)	1.98 x 1.78 (363 x 326)/ 23.1 x 16.8	1	ST	NP	NP	37.3 (213) 17.5	35.6 (203) 13.2	NP	NP	ST
Beltech 2x2 (W-SF/PP)	228 (6.7) Typical	NA	0.710 (25)	0.53/1625 (40), FH	4.68 (1051)	0.69 x 0.60 (126 x 110)	1.65 x 1.31 (303 x 241)/ 20.6 x 12.0	NP	NP	NP	NP	35.9 (205) 15.1	36.7 (209) 8.3	NP	NP	ST
Beltech 4x4 (W-SF/PP)	432 (12.8) Typical	NA	0.825 (20)	0.23/700 (17), FH	11.1 (2500)	1.44 x 1.59 (263 x 291)	NP	NP	NP	NP	NP	70 (396) 10.2	70 (400) 10.0	NP	NP	ST
Beltech 4x6 (W-SF/PP)	543 (16) Typical	NA	0.710 (25)	0.24/715 (18), FH	11.9 (2675)	1.57 x 2.09 (287 x 384)	NP	NP	NP	18 (102)	54 (307)	75.4 (430) 14.1	106 (608) 10.7	NP	NP	ST

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- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
[7] $LTDS = \frac{T_{ult}}{RF_{cr} \times RF_{id} \times RF_D}$
 RF_{cr} = Reduction factor for creep
 RF_{id} = Reduction factor for installation damage
 RF_D = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

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NP = Not provided by manufacturer
NA = Not applicable, per manufacturer
Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.

Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications										Reinforcement Applications				Other Manufacturer's Suggested Applications [8]	
	Filtration/Hydraulic Properties					Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)		LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

BTL Liners www.btl liners.com																
Non-woven Geotextile (NW-p)			0.18 (80)	1.4/3870 (95), CH	2.2 (500)	0.356 x 0.356 (80 x 80)	0.912 x 0.912 (205 x 205)/50 x 50	1, 2, 3	D, E, SP, ST							F, P
Woven Geotextile (W-SF)			50	0.05 sec ⁻¹	700 LB	80 LB	200 LB	3	D, E, S/F, SP, ST							F, P

Carthage Mills www.carthagemills.com																
Carthage 6% (W-PP)	NA	4-6	0.212 (70)	0.28/733 (18), CH	4.23 (950)	0.44 x 0.27 (100 x 60)	1.64 x 1.11 (370 x 250)/15	2	D, E (15-50% & >50%)	NA	NA	39.4 (225)	25.4 (145)	NA	NA	E, F, S, S/F, ST, SP, R
FX-55 (W-PP)	NA	<1	0.425 (40)	0.05/204 (5), FH	3.11 (700)	0.33 (75)	0.89 (200)/15	3	SP, ST	NA	NA	21.0 (120)	21 (120)	NA	NA	SP, ST, R
FX-66 (W-PP)	NA	<1	0.425 (40)	0.05/160 (4), FH	4.0 (900)	0.51 (115)	1.40 (315)/15	2, 1	SP, ST	NA	NA	30.6 (175)	35 (200)	NA	NA	SP, ST, R
FX-400MF (W-PP)	NA	NA	0.60 (30)	0.40/1222 (30), CH	NP	NP	NP	NA	NA	35 (200)	39.4 (225)	70 (400)/9	70 (400)/9	NA	NA	SP, ST, R
FX-45HS (NW-PP-P-h)	NA	NA	0.212 (70)	1.70/4890 (120), CH	1.38 (310)	0.22 (50)	0.53 (120)/50	3	D, SP, ST	NA	NA	NA	NA	NA	NA	D, SP
FX-60HS (NW-PP-P-h)	NA	NA	0.212 (70)	1.50/4480 (110), CH	1.82 (410)	0.27 (60)	0.71 (160)/50	2	D, SP, ST, E	NA	NA	NA	NA	NA	NA	D, SP, ST, E
FX-80HS (NW-PP-P-h)	NA	NA	0.180 (80)	135/3666 (90), CH	2.23 (500)	0.36 (80)	0.91 (205)/50	1	D, SP, ST, E	NA	NA	NA	NA	NA	NA	D, SP, ST, E

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		Filtration/Hydraulic Properties			Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%						
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]			Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

Dalco Nonwovens | www.dalcononwovens.com

Dalco 1031 (NW-P/PP)	NP	NP	0.30 (50)	2.2/6927 (170), CH	0.934 (210)	0.11 (25)	0.35 (80)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1035 (NW-P/PP)	NP	NP	0.30 (50)	2.1/6095 (165), CH	1.157 (260)	0.178 (40)	0.401 (90)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1040 (NW-P/PP)	NP	NP	0.212 (70)	2.0/5700 (140), CH	1.379 (310)	0.202 (45)	0.45 (100)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1045 (NW-P/PP)	NP	NP	0.212 (70)	1.8/4885 (120), CH	1.490 (335)	0.22 (50)	0.54 (120)/50	3	SP, D, F, E	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1060 (NW-P/PP)	NP	NP	0.212 (70)	1.4/4479 (110), CH	1.824 (410)	0.269 (60)	0.71 (160)/50	2	SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1070 (NW-P/PP)	NP	NP	0.212 (70)	1.4/4479 (110), CH	2.046 (460)	0.333 (75)	0.80 (180)/50	2	SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1080 (NW-P/PP)	NP	NP	0.18 (80)	1.3/4074 (100), CH	2.335 (525)	0.359 (80)	0.91 (205)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1100 (NW-P/PP)	NP	NP	0.18 (80)	1.2/3251 (80), CH	2.780 (625)	0.444 (100)	1.1 (250)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1120 (NW-P/PP)	NP	NP	0.15 (100)	0.9/3055 (75), CH	3.670 (825)	0.51 (115)	1.33 (300)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1160 (NW-P/PP)	NP	NP	0.15 (100)	0.7/2035 (50), CH	4.559 (1025)	0.644 (145)	1.69 (380)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1101 (NW-P/PP)	339 (10.0)	NP	0.15 (100)	0.94/3055 (75), CH	3.225 (725)	0.445 (100)	1.201 (270)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P

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										MD	XD	MD	XD			

GEONIA www.egeonia.com																
Geonia DML-10 (W/PET)	NP	NA	NP	0.03/90 (2.21) CH	5.5 (1235)	NA	NA	NA	NA	50 (285)	NP	100/10 (570)	50/10 (285)	65 (4477)	52 (3359)	R
Geonia DML-20 (W/PET)	NP	NA	NP	0.4/1200 (29.5) CH	9 (2020)	NA	NA	NA	NA	100 (570)	NP	200/10 (1142)	50/10 (285)	131 (8954)	103 (7078)	R
Geonia DML-30 (W/PET)	NP	NA	NP	0.4/1200 (29.5) CH	11 (2470)	NA	NA	NA	NA	150 (856)	NP	300/10 (1713)	50/10 (285)	196 (13431)	155 (10617)	R
Geonia DML-40 (W/PET)	NP	NA	NP	0.3/900 (22.1) CH	NP	NA	NA	NA	NA	200 (1142)	NP	400/10 (2284)	50/10 (285)	261 (17908)	207 (14156)	R
Geonia DML-50 (W/PET)	NP	NA	NP	0.05/150 (3.7) CH	NP	NA	NA	NA	NA	250 (1425)	NP	500/10 (2855)	50/10 (285)	327 (22385)	258 (17695)	R
Geonia DML-60 (W/PET)	NP	NA	NP	0.05/150 (3.7) CH	NP	NA	NA	NA	NA	300 (1713)	NP	600/10 (3426)	50/10 (285)	392 (26862)	310 (21235)	R
Geonia DML-70/10 (W/PET)	NP	NA	NP	0.1/300 (7.4) CH	NP	NA	NA	NA	NA	350 (1996)	NP	700/10 (3997)	100/10 (570)	458 (31339)	362 (24774)	R
Geonia DML-80/10 (W/PET)	NP	NA	NP	0.1/300 (7.4) CH	NP	NA	NA	NA	NA	400 (2284)	NP	800/10 (4568)	100/10 (570)	523 (35816)	413 (28313)	R
Geonia DML-100/10 (W/PET)	NP	NA	NP	0.1/300 (7.4) CH	NP	NA	NA	NA	NA	500 (2855)	NP	1000/10 (5710)	100/10 (570)	654 (44770)	517 (35391)	R
Geonia DM-10/10 (W/PET)	NP	NA	NP	0.4/1200 (29.5) CH	8 (1800)	NA	NA	NA	NA	50 (285)	50 (285)	100/10 (570)	100/10 (570)	65 (4477)	52 (3359)	R, SP, ST

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										MD	XD	MD	XD			

Hanes Geo Components | www.hanesgeo.com

TerraTex GS (W-SF/PP)	NA	1	0.425 (40)	0.05/203 (5), CH	3.12 (700)	0.333 (75)	0.90 (200)/15	3	SP, ST	NP	NP	NP	NP	NP	NP	E
TerraTex HD (W-SF/PP)	NA	1	0.425 (40)	0.05/163 (4), CH	4.45 (1000)	0.533 (120)	1.40 (315)/15	1, 2, 3	SP, ST	NP	NP	NP	NP	NP	NP	E
TerraTex N04.5 (NW-P/PP)	NA	NA	0.212 (70)	1.7/4885 (120), CH	1.46 (340)	0.222 (50)	0.533 (120)/50	3	D, SP, ST, E	NP	NP	NP	NP	NP	NP	F, S/F
TerraTex N06 (NW-P/PP)	NA	NA	0.212 (70)	1.5/4480 (110), CH	1.82 (410)	0.267 (60)	0.711 (160)/50	2, 3	SP, D	NP	NP	NP	NP	NP	NP	F, S/F, E
TerraTex N08 (NW-P/PP)	NA	NA	0.180 (80)	1.35/3657 (90), CH	2.38 (535)	0.378 (85)	0.911 (205)/50	1, 2, 3	ST, SP, E, D	NP	NP	NP	NP	NP	NP	F, E
TerraTex HPG-27 (W/PP)	NA	NA	0.60 (30)	0.7/2037 (50), CH	NP	NP	NP	2, 3	SP	17.7 (101)	19.8 (113)	38.5 (220)	35.9 (205)	NP	NP	D, F, E, S/F, ST
TerraTex HPG-37 (W/PP)	NA	NA	0.60 (30)	0.52/1630 (40), CH	NP	NP	NP	1, 2, 3	SP	21.9 (125)	22.8 (130)	52.5 (300)	48.2 (275)	NP	NP	E, F, D, ST, R, S/F
TerraTex HPG-57 (W/PP)	NA	NA	0.60 (30)	0.4/1222 (30), CH	NP	NP	NP	1, 2, 3	ST, SP	35.0 (200)	39.4 (225)	70 (400)	70 (400)	NP	NP	R, E, S/F

HUESKER Inc. | www.huesker.com

Stabilenka® 200 (W/PET)	400 (11.8)	NA	NA	NA	NA	NA	NA	NA	NA	100 (570)	NA	200/10 (1142)	N/A	130 (8899)	101 (6918)	R
Stabilenka® 300 (W/PET)	560 (16.5)	NA	NA	NA	NA	NA	NA	NA	NA	150 (856)	NA	300/10 (1710)	N/A	195 (13,344)	151 (10,368)	R
Stabilenka® 400 (W/PET)	700 (21)	NA	NA	NA	NA	NA	NA	NA	NA	200 (1141)	NA	400/10 (2280)	N/A	260 (17,797)	214 (14,704)	R
Stabilenka® 600 (W/PET)	1020 (30)	NA	NA	NA	NA	NA	NA	NA	NA	300 (1712)	NA	600/10 (3425)	N/A	390 (26,696)	322 (22,062)	R
Stabilenka® 800 (W/PET)	1380 (40.7)	NA	NA	NA	NA	NA	NA	NA	NA	400 (2283)	NA	800/10 (4565)	N/A	519 (35,584)	429 (29,408)	R
Stabilenka® 1000 (W/PET)	1800 (53)	NA	NA	NA	NA	NA	NA	NA	NA	500 (2854)	NA	1000/10 (5708)	N/A	649 (44,480)	536 (36,760)	R
Basetrac® Woven PP 45	240 (7)	NA	0.4 (40)	0.90 (FH) 1,630 (40)	5.8 (1300)	0.7 x 0.7 (150 x 160)	2 x 1.4 (450 x 320) 12 x 10	2, 3	SP	22 (125)	23 (130)	52.5 (300)	47.3 (270)	NA	NA	ST, R

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K = Knitted O/C = Other/combination
[2] PP = Polypropylene, PET = Polyester, * = average
[3] FH = Test is run by the falling head method
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- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
[7] $LTDS = \frac{T_{ult}}{RF_{cr} \times RF_{id} \times RF_{d}}$
 RF_{cr} = Reduction factor for creep
 RF_{id} = Reduction factor for installation damage
 RF_{d} = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

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Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications								Reinforcement Applications						Other Manufacturer's Suggested Applications [8]
		Filtration/Hydraulic Properties				Physical Properties				Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%				Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]				
										MD	XD	MD	XD			

L & M Supply | www.landmsupplyco.com

LM400 NT (NW-P/PP)	NP	N/A	.212 (70)	2.1/6095 (150), FH	1.11 (250)	0.178 (40)	.400 (90)/50	NP	NP	N/A	N/A	N/A	N/A	N/A	N/A	F, D, E
LM600 NT (NW-P/PP)	NP	N/A	.212 (70)	1.5/4880 (110), FH	1.82 (410)	0.267 (60)	0.711 (160)/50	2	SP, D	N/A	N/A	N/A	N/A	N/A	N/A	S/F, F, E
LM800 NT (NW-P/PP)	NP	N/A	0.18 (80)	1.35/3657 (90), FH	2.33 (525)	0.356 (80)	0.911 (205)/50	1	SP, D, ST, E	N/A	N/A	N/A	N/A	N/A	NA	S/F, F, D, E
LM1000 NT (NW-P/PP)	NP	N/A	0.15 (100)	1.1/3251 (80), FH	2.89 (650)	0.444 (100)	1.11 (250)/50	1	SP, D, ST, E	N/A	N/A	N/A	N/A	N/A	N/A	S/F, F, D, E
LM1600 NT (NW-P/PP)	NP	N/A	0.15 (100)	0.7/2035 (50), FH	4.56 (1025)	0.644 (145)	1.69 (380)/50	1	SP, D, ST, E	N/A	N/A	N/A	N/A	N/A	N/A	S/F, F, D, E
LM200 NT (W-SF/PP)	NP	1	0.43 (40)	0.05/200 (5), FH	3.11 (700)	0.330 (75)	0.9 (200)/15	3	SP, ST	N/A	N/A	N/A	N/A	N/A	N/A	
LM315 NT (W-SF/PP)	NP	1	0.43 (40)	0.05/163 (4), FH	4.0 (900)	0.533 (75)	1.4 (315)/15	1, 2, 3	SP, ST	N/A	N/A	N/A	N/A	N/A	N/A	
LM2199 FW	NP	4	0.212 (70)	0.28/733 (18)	4.2 (950)	0.445 x 0.267 (100 x 60)	1.6 x 1.1 (370 x 250) 15 x 15	2, 3	D, E	N/A	N/A	N/A	N/A	N/A	N	S/F Bulk Head
LM270 HP	NP	NA	0.60 (30)	0.7/2037 (50)	4.5 (1000)	N/A	1.3 x 1.2 (295 x 250)			17.7 (1212)	19.8 (1356)	38.5 (2640)	35.9 (2460)	N/A		
LM570 HP	NP	N/A	0.60 (30)	0.40/1222 (30)	8.9 (2000)	N/A	2.2 x 2.1 (500 x 475) 11 x 4	1A	Enhanced Stabilization	35.0 (2400)	39.4 (2700)	70.0 (4800)	70.0 (4800)	N/A		

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MacTex N21.1 (NW-P/PP)	150 (4.4)	NP	0.212 (70)	1.7/4885 (120)	1.51 (340)	0.22 (50)	0.533 (120)/50	>>3	ST, SP, D, F, E	NA	NA	NA	NA	NA	NA	NA
MacTex N47.1 (NW-P/PP)	540 (16.0)	NP	0.18 (80)	1.35/3657 (90)	2.38 (535)	0.378 (85)	0.911 (205)/50	>>1	ST, SP, D, F, E	NA	NA	NA	NA	NA	NA	NA
MacTex W1 200 (W-SF/PP)		NP	NP	0.425 (40)	0.05/203 (5)	3.12 (700)	0.33 (75)	0.9 (200)/15	>>3	ST, SP, D, F, E	NA	NA	NA	NA	NA	NA
MacTex W1 315 (W-SF/PP)		NP	NP	0.425 (40)	0.05/163 (4)	4.45 (1000)	0.533 (120)	1.4 (315)/15	>>1	ST, SP, D, F, E	NA	NA	NA	NA	NA	NA
MacTex AR 1 (NW-P/PP)	140 (4.15)	NP	NA				0.45 (101)	NA	A/O	NA	NA	NA	NA	NA	NA	NA
MacTex Ballast (W/PE)	220 (6.5)	NP	NA	NA	2.97 (668)	NA	NA	NA	P	NA	NA	10 (685)	27.2 (1870)	NA	NA	NA

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- ST = Stabilization D = Drainage
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- A/O = Asphalt overlay
- [5] MD = Machine direction XD = Cross-machine direction

- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
- [7] LTDS =
$$\frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$$
 - RF_{CR} = Reduction factor for creep
 - RF_{ID} = Reduction factor for installation damage
 - RF_D = Reduction factor for durability
- NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

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- NP = Not provided by manufacturer
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- Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.

GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications								Reinforcement Applications				Other Manufacturer's Suggested Applications [8]		
		Filtration/Hydraulic Properties			Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%						
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]			Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

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GEOTEX® 401 (NW-P/PP)	NA	NA	0.212 (70)	1.7/5,704 (140), CH	1,379 (310)	222 (50)	534 (120)/50	3	SP, ST, D	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 601 (NW-P/PP)	NA	NA	0.212 (70)	1.5/4,482 (110), CH	1,824 (410)	267 (60)	712 (160)/50	2, 3	SP, ST, D, E	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 801 (NW-P/PP)	NA	NA	0.180 (80)	1.5/4,482 (110), CH	2,335 (525)	356 (80)	912 (205)/50	1, 2, 3	SP, ST, D, E	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 1001 (NW-P/PP)	NA	NA	0.150 (100)	1.2/3,260 (80), CH	3,114 (700)	445 (100)	1,112 (250)/50	1, 2, 3	SP, ST, D, E	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 1601 (NW-P/PP)	NA	NA	0.150 (100)	0.7/2,037 (50), CH	4,804 (1080)	645 (145)	1,690 (380)/50	1, 2, 3	SP, ST, D, E	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 200ST (W-PP)	NA	NA	0.425 (40)	0.05/163 (4), FH	3,114 (700)	334 (75)	890 (200)/15	3	SP, ST	NA	NA	NA	NA	NA	NA	SP, ST
GEOTEX® 350ST (W-PP)	NA	NA	0.600 (30)	0.35/1,222 (30), FH	4,448 (1,000)	445 (100)	1,557 x 1,557 (350 x 350)/25	NA	NA	19.8 (113)	19.8 (113)	52.5 (300) / 8	47.3 (270) / 8	NA	NA	R, SP, ST
GEOTEX® 2X2HF (W-PP)	NA	NA	0.600 (30)	0.6/1,630 (40), FH	4,448 (1,000)	489 x 578 (110 x 130)	NA	NA	NA	18.6 (106)	21.0 (120)	38.5 (220) / 7	35.9 (205) / 7	NA	NA	R, SP, ST, F, D, E
GEOTEX® 3X3HF (W-PP)	NA	NA	0.425 (40)	0.52/1,630 (40), FH	7,117 (1,600)	667 x 712 (150 x 160)	NA	1, 2, 3	SP, ST, D, E	21.9 (125)	22.8 (130)	52.5 (300) / 10	47.3 (270) / 5	NA	NA	R, SP, ST, F, D, E
GEOTEX® 4X4HF (W-PP)	NA	NA	0.600 (30)	0.4/1,222 (30), FH	8,896 (2,000)	801 x 801 (180 x 180)	NA	NA	NA	35.0 (200)	39.4 (225)	70.1 (400) / 9	70.1 (400) / 9	NA	NA	R, SP, ST, F, D, E
GEOTEX® 3X3 UF (W-PP)	NA	NA	0.425 (40)	0.9/3,056 (75) FH	NA	NA	NA	1, 2, 3	SP, ST, D, E	26.3 (150)	32.9 (188)	NA	NA	NA	NA	R, SP, ST, F, D, E
GEOTEX® 4X4 UF (W-PP)	NA	NA	0.425 (40)	1/3,056 (75), FH	NA	NA	NA	1, 2, 3	SP, ST, D, E	21 (120)	63.9 (365)	NA	NA	NA	NA	R, SP, ST, F, D, E

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Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications								Reinforcement Applications				Other Manufacturer's Suggested Applications [8]		
		Filtration/Hydraulic Properties			Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%						
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]			Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

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GEOTEX® 401 DND (NW-P/PP)	NA	NA	0.212 (70) (TYPICAL)	2.0/6,112 (150), CH (TYPICAL)	1,379 (310) (TYPICAL)	222 (50) (TYPICAL)	534 (120)/70 (TYPICAL)	NA	NA	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 601 DND (NW-P/PP)	NA	NA	0.212 (70) (TYPICAL)	2.0/6,112 (150), CH (TYPICAL)	2,193 (493) (TYPICAL)	378 (85) (TYPICAL)	881 (198)/70 (TYPICAL)	NA	NA	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 801 DND (NW-P/PP)	NA	NA	0.180 (80) (TYPICAL)	1.7/ 4,482 (110), CH (TYPICAL)	2,891 (650) (TYPICAL)	423 (95) (TYPICAL)	1,068 (240)/70 (TYPICAL)	NA	NA	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
PETROMAT® 4597 (NW-P/PP)	156 (4.6)	NA	NA	NA	NA	NA	534 (120)/50	NA	NA	NA	NA	NA	NA	NA	NA	A/O
PETROMAT® 4598 (NW-P/PP)	140 (4.1)	NA	NA	NA	NA	NA	450 (101)/50	Type 2	A/O	NA	NA	NA	NA	NA	NA	A/O
PETROMAT® Plus-White 4597 (NW-P/PP)	156 (4.6)	NA	NA	NA	NA	NA	534 (120)/50	NA	NA	NA	NA	NA	NA	NA	NA	A/O
PETROMAT® Plus-White 4598 (NW-P/PP)	140 (4.1)	NA	NA	NA	NA	NA	450 (101)/50	Type 2	A/O	NA	NA	NA	NA	NA	NA	A/O
PETROMAT® Plus-White 4599 (NW-P/PP)	122 (3.6)	NA	NA	NA	NA	NA	400 (90)/50	NA	NA	NA	NA	NA	NA	NA	NA	A/O
GEOTEX® 1341 NH (NW-P/PP)	509 (15.0) (TYPICAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.0 (57)	10.0 (57)	NA	NA	SP, F, P
REFLECTEX® (NW-P/PP)	509 (15.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.0 (57)	10.0 (57)	NA	NA	SP, F, P

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GlasPave 25 (N/W,O/C), (FG/PET)	136 (4.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 (140)* / <5%	25 (140)* / <5%	NA	NA	A/O, PR
GlasPave 50 (N/W,O/C), (FG/PET)	237 (7.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 (280)* / <5%	50 (280)* / <5%	NA	NA	A/O, PR

† Tensile test performed under ASTM D5035

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GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications									Reinforcement Applications				Other Manufacturer's Suggested Applications [8]	
		Filtration/Hydraulic Properties			Physical Properties						Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)		LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

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GC140 (NW-P/PP)	143 (4.2)	NA	NA	NA	1.33 (300)	0.200 (45)	0.453 (102)/50	NP	NP	NA	NA	NA	NA	NA	NA	A/O
GE116 (NW-P/PP)	542 (16)	NA	0.150 (100)	0.57/1833 (45), CH	5.34 (1200)	0.667 (150)	1.89 (425)/50	1	SP, E	NA	NA	NA	NA	NA	NA	S/F, F, D, P, E
GE160 (NW-P/PP)	203 (6)	NA	0.212 (70)	1.63/5080 (125), CH	2.0 (450)	0.290 (65)	0.711 (160)/50	2	SP, D	NA	NA	NA	NA	NA	NA	S/F, F, D, P, E
GE180 (NW-P/PP)	271 (8)	NA	0.180 (80)	1.26/4074 (100), CH	2.67 (600)	0.400 (90)	1.00 (225)/50	1	SP, D, ST	NA	NA	NA	NA	NA	NA	S/F, F, D, P, E
GT110 (NW-P/PP)	NP	NA	0.150 (100)	1.20/3251 (80), CH	3.11 (700)	0.444 (100)	1.11 (250)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	S/F, F, D, E
GT116 (NW-P/PP)	NP	NA	0.150 (100)	0.70/2035 (50), CH	4.80 (1080)	0.644 (145)	1.69 (380)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	S/F, F, D, E
GT135 (NW-P/PP)	NP	NA	0.300 (50)	2.0/6095 (150), CH	1.18 (265)	0.178 (40)	0.401 (90)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
GT142 (NW-P/PP)	NP	NA	0.212 (70)	1.7/5500 (135), CH	1.38 (310)	0.222 (50)	0.533 (120)/50	3	S/F	NA	NA	NA	NA	NA	NA	F, D, E
GT160 (NW-P/PP)	NP	NA	0.212 (70)	1.5/4480 (110), CH	1.82 (410)	0.267 (60)	0.711 (160)/50	2	SP, D	NA	NA	NA	NA	NA	NA	S/F, F, E
GT180 (NW-P/PP)	NP	NA	0.180 (80)	1.35/3657 (90), CH	2.38 (535)	0.378 (85)	0.911 (205)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	S/F, F, E, D
SW200 (W-SF/PP)	NP	1	0.425 (40)	0.05/203 (5), CH	3.11 (700)	0.333 (75)	0.90 (200)/15	3	NP	NP	NP	NP	NP	NP	NP	NP
SW315 (W/PP)	NP	1	0.425 (40)	0.05/163 (4), CH	4.45 (1000)	0.533 (120)	1.40 (315)/15	1	SP, ST	NP	NP	NP	NP	NP	NP	SF

Solmax | www.solmax.com

NW6 (NW-P/PP)	200 (6)	NA	0.212 (70)	1.5 4480 (110)	0.395 (90)	0.29 (65)	0.71 (160)/50	2	SP, D, F, E, A/O	NP	NP	NP	NP	NP	NP	NP
NW8 (NW-P/PP)	270 (8)	NA	0.18 (80)	1.3 3865 (95)	0.525 (120)	0.40 (90)	0.97 (220)/50	1	SP, D, F, E, P	NP	NP	NP	NP	NP	NP	NP
NW10 (NW-P/PP)	335 (10)	NA	0.15 (100)	1.0 3050 (75)	0.725 (165)	0.45 (100)	1.15 (260)/50	>1	SP, D, F, E, P	NP	NP	NP	NP	NP	NP	NP
NW12 (NW-P/PP)	405 (12)	NA	0.15 (100)	0.8 2440 (60)	0.835 (190)	0.55 (125)	1.42 (320)/50	>>1	SP, D, F, E, P	NP	NP	NP	NP	NP	NP	NP
NW16 (NW-P/PP)	540 (16)	NA	0.15 (100)	0.6 1830 (45)	1.055 (240)	0.66 (150)	1.73 (390)/50	>>>1	SP, D, F, E, P	NP	NP	NP	NP	NP	NP	NP

Note: Additional heavy weights are available.

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W = Woven, -SF = slit film t = thermally bonded
K = Knitted O/C = Other/combination
[2] PP = Polypropylene, PET = Polyester, * = average
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CH = Test is run by the constant head method
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ST = Stabilization D = Drainage
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A/O = Asphalt overlay
[5] MD = Machine direction XD = Cross-machine direction

- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
[7] $LTDS = \frac{T_{ult}}{RF_{cr} \times RF_{ID} \times RF_D}$
 RF_{cr} = Reduction factor for creep
 RF_{ID} = Reduction factor for installation damage
 RF_D = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

- [8] R = Reinforcement P = Protection
SP = Separation S/F = Silt Fence
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RC = Reinforcement Composite
A/O = Asphalt overlay
NP = Not provided by manufacturer
NA = Not applicable, per manufacturer
Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.

Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications										Reinforcement Applications					Other Manufacturer's Suggested Applications [8]
	Filtration/Hydraulic Properties					Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
										MD	XD	MD	XD			

TechFab India | www.techfabindia.com

TFI-3200HT (W/PET)	NP	NP	0.25 (60)	0.02/240 (5.89), CH	12 (2698)	NA	NA	NP	NP	80 (457)	80 (457)	200 (1142)	200 (1142)	140 (9590)	NP	R
TFI-31000 (W/PET)	NP	NP	0.45 (40)	0.01/180 (4.41), CH	7 (1573)	NA	NA	NP	NP	415 (2370)	18 (103)	1000 (5711)	50 (286)	709 (48566)	NP	W, S, E
R 42 (NW/PP)	NP	NP	0.212 (70)	1.5/4500 (110), CH	1.51 (340)	0.214 (48)	0.534 (120)/50	NP	SP, ST, F, D, E	NA	NA	9.0 (51)	9.0 (51)	NA	NA	ST, SP, R

TenCate Geosynthetics | www.mirafi.com

Mirafi 140NC (NW-P/PP)	NA	NA	0.212 (70)	2.0/5704 (140), CH	1.1 (250)	0.2 x 0.2 (45 x 45)	0.445 x 0.445 (100 x 100)/50 x 50	NA	NA	NA	NA	NA	NA	NA	NA	F, D, E
Mirafi 140N (NW-P/PP)	NA	NA	0.212 (70)	1.7/5500 (135), CH	1.4 (310)	0.223 x 0.223 (50 x 50)	0.534 x 0.534 (120 x 120)/50 x 50	3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
Mirafi 160N (NW-P/PP)	NA	NA	0.212 (70)	1.5/4481 (110), CH	1.8 (410)	0.267 x 0.267 (60 x 60)	0.712 x 0.712 (160 x 160)/50 x 50	2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
Mirafi 180N (NW-P/PP)	NA	NA	0.18 (80)	1.4/3870 (95), CH	2.2 (500)	0.356 x 0.356 (80 x 80)	0.912 x 0.912 (205 x 205)/50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F, P
Mirafi 1100N (NW-P/PP)	NA	NA	0.15 (100)	0.8/3056 (75), CH	3.1 (700)	0.445 x 0.445 (100 x 100)	1.1 x 1.1 (250 x 250)/50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F, P
Mirafi 1120N (NW-P/PP)	NA	NA	0.15 (100)	0.8/2648 (65), CH	3.6 (800)	0.512 x 0.512 (115 x 115)	1.3 x 1.3 (300 x 300)/50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F, P
Mirafi 1160N (NW-P/PP)	NA	NA	0.15 (100)	0.7/2037 (50), CH	4.6 (1025)	0.623 x 0.623 (140 x 140)	1.7 x 1.7 (380 x 380)/50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F, P
Mirafi 500X (W/SF-PP)	NA	1	0.425 (40)	0.05/163 (4), CH	3.1 (700)	0.334 x 0.334 (75 x 75)	0.890 x 0.890 (200 x 200)/15 x 15	3	SP, ST	NA	NA	NA	NA	NA	NA	NA
Mirafi 600X (W/SF-PP)	NA	1	0.425 (40)	0.05/163 (4), CH	4.0 (900)	0.534 x 0.534 (120 x 120)	1.4 x 1.4 (315 x 315)/15 x 15	1, 2, 3	SP, ST	NA	NA	NA	NA	NA	NA	NA
Mirafi FW402 (W/PP)	NA	10	0.425 (40)	2.1/5907 (145), CH	3.0 (675)	0.512 x 0.334 (115 x 75)	1.6 x 0.9 (365 x 200)/24 x 10	2, 3	D	7.0 (40)	8.8 (50)	35 (200)	24.5 (140)	NA	NA	E, F
Mirafi FW404 (W/PP)	NA	1	0.425 (40)	0.9/2852 (70), CH	5.1 (1150)	0.668 x 0.734 (150 x 165)	1.8 x 1.4 (400 x 320)/15 x 15	1, 2, 3	D, E	17.5 (100)	17.5 (100)	43.8 (250)	40.3 (230)	NA	NA	F

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- [2] PP = Polypropylene, PET = Polyester, * = average
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- A/O = Asphalt overlay
- [5] MD = Machine direction XD = Cross-machine direction

[6] For a minimum of 10,000 hours, extrapolated to a 75 year time period

$$[7] LTDS = \frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$$

RF_{CR} = Reduction factor for creep
 RF_{ID} = Reduction factor for installation damage
 RF_D = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

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 - RC = Reinforcement Composite
 - A/O = Asphalt overlay
 - NP = Not provided by manufacturer
 - NA = Not applicable, per manufacturer
- Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.

GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications								Reinforcement Applications				Other Manufacturer's Suggested Applications [8]		
		Filtration/Hydraulic Properties			Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%						
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]			Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

TenCate Geosynthetics | www.mirafi.com

Mirafi FW500 (W/PP)	NA	3	0.30 (50)	0.2/611 (15), CH	5.3 (1200)	0.534 x 0.534 (120 x 120)	1.7 x 1.7 (375 x 375)/ (15 x 7)	2, 3	D	12.3 (70)	43.8 (250)	35.0 (200)	48.2 (275)	NA	NA	E, F
Mirafi FW700 (W/PP)	NA	4	0.212 (70)	0.28/733 (18), CH	4.2 (950)	0.445 x 0.267 (100 x 60)	1.6 x 1.1 (370 x 250)/ (15 x 15)	2, 3	D, E	12.3 (70)	7.0 (40)	39.4 (225)	25.4 (145)	NA	NA	F
Mirafi HP270 (W/PP)	NA	NA	0.60 (30)	0.60/1630 (40), CH	4.5 (1000)	0.490 x 0.579 (110 x 130)	1.3 x 1.2 (295 x 260)	2, 3	SP	18.6 (106)	21.0 (120)	38.5 (220)	35.9 (205)	NA	NA	R, ST
Mirafi HP370 (W/PP)	NA	NA	0.425 (40)	0.9	5.8 (1300)	0.668 x 0.712 (150 x 160)	2.0 x 1.4 (450 x 320)/ (12 x 10)	1, 2, 3	SP	21.9 (125)	22.8 (130)	52.5 (300)	47.3 (270)	NA	NA	R, ST
Mirafi HP570 (W/PP)	NA	NA	0.60 (30)	0.5/1222 (30), CH	8.9 (2000)	0.8 x 0.8 (180 x 180)	2.2 x 2.1 (500 x 475)/ (11 x 4)	1, 2, 3	SP	35.0 (200)	43.8 (250)	70.0 (400)	70.0 (400)	NA	NA	R, ST
Mirafi HP665 (W/PP)	NA	NA	0.425 (40)	0.26/815 (20), CH	8.9 (2000)	0.8 x 1.2 (180 x 270)	2.7 x 3.1 (600 x 700)/ (15 x 15)	1, 2, 3	SP, ST	17.5 (100)	61.3 (350)	78.8 (450)	109.4 (625)	NA	NA	R, E
Mirafi HP770 (W/PP)	NA	NA	0.085 (20)	0.9/2648 (65), CH	8.5 (1900)	1.113 x 0.890 (250 x 200)	2.6 x 2.2 (600 x 500)/ (12 x 6)	1, 2, 3	SP, ST	52.5 (300)	52.5 (300)	105.1 (600)	84.0 (480)	NA	NA	R
Mirafi S600 (NW-P/PP)	203 (6.0)	NA	0.18 (80)	1.5/4481 (110), CH	2.0 (450)	0.312 x 0.312 (70 x 70)	0.757 x 0.757 (170 x 170)/ (50 x 50)	NA	NA	NA	NA	NA	NA	NA	NA	ST, P
Mirafi S800 (NW-P/PP)	271 (8.0)	NA	0.15 (100)	1.4/4481 (110), CH	2.7 (600)	0.423 x 0.423 (95 x 95)	1.0 x 1.0 (230 x 230)/ (50 x 50)	NA	NA	NA	NA	NA	NA	NA	NA	ST, P
Mirafi S1600 (NW-P/PP)	542 (16.0)	NA	0.15 (100)	0.7/2037 (50), CH	5.3 (1200)	0.69 x 0.69 (155 x 155)	1.891 x 1.891 (425 x 425)/ (50 x 50)	NA	NA	NA	NA	NA	NA	NA	NA	ST, P
MPV400 (NW-P/PP)	119 (3.5)	NA	NA	NA	NA	NA	0.4 x 0.4 (90 x 90)/ (50 x 50)	NA	A/O	NA	NA	NA	NA	NA	NA	A/O
MPV500 (NW-P/PP)	140 (4.1)	NA	NA	NA	NA	NA	0.449 x 0.449 (101 x 101)/ (50 x 50)	NA	A/O	NA	NA	NA	NA	NA	NA	A/O

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Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications									Reinforcement Applications						Other Manufacturer's Suggested Applications [8]
	Filtration/Hydraulic Properties				Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%				Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]				
										MD	XD	MD	XD			

Tensor International Corp. | www.tensor-international.com

GlasPave® 25	136 (4.0)	NA	NA	NA	NA	NA	25 kN/m (142 lb/in)/ <5% [◊]	NA	NA	NA	NA	NA	NA	NA	NA	A/O, PR
GlasPave® 50	237 (7.0)	NA	NA	NA	NA	NA	50 kN/m (285 lb/in)/ <5% [◊]	NA	NA	NA	NA	NA	NA	NA	NA	A/O, PR

◊ Tensile strength per ASTM D 5035

Texel Technical Materials Inc. | www.texel.ca

TEXEL060E	203 (6)	NA	0.212 (70)	1.60/5080 (125)	2.000 (450)	0.289 (65)	0.712 (160)/ 50										
TEXEL080E (NW-PP)	271 (8)	NA	0.180 (80)	1.26/4074 (100)	2.670 (600)	0.400 (90)	0.979 (220)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL100E (NW-PP)	339 (10)	NA	0.150 (100)	0.94/3055 (79)	3.220 (725)	0.444 (100)	1.200 (270)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL120E (NW-PP)	407 (12)	NA	0.150 (100)	0.90/2544 (62)	4.000 (900)	0.556 (125)	1.470 (330)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL140E (NW-PP)	475 (14)	NA	0.150 (100)	0.64/2037 (50)	4.650 (1045)	0.600 (135)	1.730 (389)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL160E (NW-PP)	542 (16)	NA	0.150 (100)	0.57/1833 (45)	5.340 (1200)	0.667 (150)	1.891 (425)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL200E (NW-PP)	675 (20)	NA	NP	NP	6.200 (1395)	0.800 (180)	2.045 (460)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL240E (NW-PP)	810 (24)	NA	NP	0.4/1019	7.150 (1607)	0.910 (205)	2.220 (500)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL280E (NW-PP)	950 (28)	NA	NP	NP	8.000 (1800)	1.010 (228)	2.500 (560)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL320E (NW-PP)	1080 (32)	NA	NP	NP	8.800 (1980)	1.100 (247)	2.640 (595)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
TEXEL430E (NW-PP)	1460 (43)	NA	NP	NP	9.500 (2135)	1.350 (303)	3.300 (742)/ 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	P, SP, D, E, ST
PAVETEX L	120 (3.5)	NA	NA	NA	NA	NA	0.400 (90)/ 50	NA	A/O	NA	NA	NA	NA	NA	NA	NA	A/O
PAVETEX M	140 (4.1)	NA	NA	NA	NA	NA	0.450 (101)/ 50	NA	A/O	NA	NA	NA	NA	NA	NA	NA	A/O
PAVETEX H	156 (4.6)	NA	NA	NA	NA	NA	555 (125)/ 50	NA	A/O	NA	NA	NA	NA	NA	NA	NA	A/O
PAVETEX SH	203 (6.0)	NA	NA	NA	NA	NA	667 (150)/ 50	NA	A/O	NA	NA	NA	NA	NA	NA	NA	A/O

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GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications									Reinforcement Applications				Other Manufacturer's Suggested Applications [8]	
		Filtration/Hydraulic Properties			Physical Properties						Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)		LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			
120EX (NW-PP)	NP	NP	0.21 (70)	2.2/6519 (160), FH	0.934 (210)	0.133 (30)	0.356 (80)/50	NP	NP	NP	NP	NP	NP	NP	NP	A/O, F, D
125EX (NW-PP)	NP	NP	0.21 (70)	2.1/6112 (150), FH	1.179 (265)	0.178 (40)	0.400 (90)/50	NP	NP	NP	NP	NP	NP	NP	NP	A/O, F, D
130EX (NW-PP)	NP	NP	0.21 (70)	2.0/5908 (145), FH	1.334 (300)	0.200 (45)	0.467 (105)/50	NP	NP	NP	NP	NP	NP	NP	NP	A/O, F, D
140EX (NW-PP)	NP	NP	0.21 (70)	1.8/5297 (130), FH	1.512 (340)	0.222 (50)	0.534 (120)/50	3	ST, SP, D, A/O	NP	NP	NP	NP	NP	NP	E, F
150EX (NW-PP)	NP	NP	0.18 (80)	1.5/4482 (110), FH	1.824 (410)	0.267 (60)	0.712 (160)/50	2, 3	ST, SP, D	NP	NP	NP	NP	NP	NP	E, F
160EX (NW-PP)	NP	NP	0.15 (100)	1.5/4482 (110), FH	2.113 (475)	0.334 (75)	0.801 (180)/50	2, 3	ST, SP, D	NP	NP	NP	NP	NP	NP	E, F
180EX (NW-PP)	NP	NP	0.15 (100)	1.5/4482 (110), FH	2.380 (535)	0.356 (80)	0.912 (205)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	F, P
245EX (NW-PP)	NP	NP	0.15 (100)	1.2/3463 (85), FH	3.114 (700)	0.445 (100)	1.112 (250)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	P, F
250EX (NW-PP)	NP	NP	0.15 (100)	1.2/3463 (85), FH	3.225 (725)	0.445 (100)	1.201 (270)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	P, F
275EX (NW-PP)	NP	NP	0.15 (100)	0.9/2648 (65), FH	3.692 (830)	0.512 (115)	1.334 (300)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	P, F
350EX (NW-PP)	NP	NP	0.15 (100)	0.7/2037 (50), FH	4.67 (1050)	0.645 (145)	1.690 (380)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	P, F
AOL (NW-PP)	NP	NP	NP	NP	NP	NP	0.400 (90)/50	NP	NP	NP	NP	NP	NP	NP	NP	A/O
AOM (NW-PP)	NP	NP	NP	NP	NP	NP	0.449 (101)/50	NP	A/O	NP	NP	NP	NP	NP	NP	A/O
GTF-180/ GTF190 (W-PP)	NP	NP	0.60 (30)	0.05/448 (11), FH	1.112 (250)	0.178 (40)	0.56 x 0.45 (125 x 101)/15	NP	SF unsupported	NP	NP	NP	NP	NP	NP	S/F
GTF200 (W-PP)	NP	1	0.425 (40)	0.08/244 (6), FH	3.114 (700)	0.334 (75)	0.890 (200)/15	3	ST, SP	NP	NP	NP	NP	NP	NP	SP

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W = Woven, -SF = slit film t = thermally bonded
K = Knitted O/C = Other/combination
[2] PP = Polypropylene, PET = Polyester, * = average
[3] FH = Test is run by the falling head method
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ST = Stabilization D = Drainage
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A/O = Asphalt overlay
[5] MD = Machine direction XD = Cross-machine direction

- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
[7] $LTDS = \frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$
 RF_{CR} = Reduction factor for creep
 RF_{ID} = Reduction factor for installation damage
 RF_D = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

- [8] R = Reinforcement P = Protection
SP = Separation S/F = Silt Fence
ST = Stabilization D = Drainage
F = Filtration E = Erosion Control
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NP = Not provided by manufacturer
NA = Not applicable, per manufacturer
Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.

Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications										Reinforcement Applications				Other Manufacturer's Suggested Applications [8]	
	Filtration/Hydraulic Properties					Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)		LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

Thrace-LINQ Inc. | www.thracelinq.com

GTF250 (W-PP)	NP	NP	0.425 (40)	0.05/163 (4), FH	4.003 (900)	0.400 (90)	1.112 (250)/15	2, 3	ST, SP	NP	NP	NP	NP	NP	NP	SP
GTF300 (W-PP)	NP	1	0.425 (40)	0.05/163 (4), FH	4.45 (1000)	0.512 (115)	1.401 (315)/15	1, 2, 3	ST, SP	NP	NP	30.6 (175)	30.6 (175)	NP	NP	ST, SP
GTF350 (W-PP)	NP	NP	0.425 (40)	0.150/448 (11), FH	4.45 (1000)	0.53 x 0.53 (120 x 120)	1.56 x 1.56 (350 x 350) 20/15	NP	NP	NP	NP	46 (265)	40 (226)	NP	NP	ST, SP, R
GTF500 (W-PP)	NP	NP	0.180 (80)	0.136/407 (10), FH	6.23 (1400)	0.89 x 0.89 (200 x 200)	2.67 x 2.67 (600 x 600) 20/15	NP	NP	NP	NP	70 (400)	70 (400)	NP	NP	ST, SP, R
GTF 400E (W-PP)	NP	4 - 6	0.21 (70)	0.28/733 (18), FH	4.23 (950)	0.45 x 0.27 (100 x 60)	1.65 x 1.11 (370 x 250)/15	2, 3	D, E	NP	NP	39 (225)	25 (145)	NP	NP	F
GTF 400EO (W-PP)	NP	10	0.425 (40)	2.1/5908 (145), FH	3.004 (675)	0.51 x 0.33 (115 x 75)	1.64 x 0.98 (370 x 220)/10	3	D	NP	NP	35 (200)	25 (145)	NP	NP	E, F
GTF 404 (W-PP)	NP	1	0.425 (40)	0.90/2852 (70), FH	5.12 (1150)	0.67 x 0.73 (150 x 165)	1.78 x 1.40 (400 x 315)/15	1, 2, 3	D, E	NP	NP	44 (250)	40 (230)	NP	NP	F
GTF 320 (W-PP)	NP	NP	0.425 (40)	0.70/2037 (50)FH	NP	0.73 x 0.64 (166 x 145)	1.77 x 1.55 (400 x 350)/20	2, 3	SP	NP	NP	39 (225)	39 (220)	NP	NP	R, ST
GTF 570 (W-PP)	NP	NP	0.600 (30)	0.40/1222 (30), FH	8.90 (2000)	0.80 x 0.80 (180 x 180)	2.11 x 1.95 (475 x 440) 12/6	1, 2, 3	SP	NP	NP	70 (400)	70 (400)	NP	NP	R, ST
600EX (NW-PP)	6	NP	0.18 (80)	1.5/4482 (110), FH	1.935 (435)	0.289 (65)	0.712 (160)/50	2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	E, F, P
800EX (NW-PP)	8	NP	0.15 (100)	1.4/4075 (100), FH	2.558 (575)	0.400 (90)	0.979 (220)/50	1, 2, 3	ST, SP, D, E	NP	NP	NP	NP	NP	NP	E, F, P
2400EX (NW-PP)	24	NP	NP	NP	7.784 (1750)	0.890 (200)	2.224 (500)/50	1, 2, 3	P, E	NP	NP	NP	NP	NP	NP	P, F, P
3200EX (NW-PP)	32	NP	NP	NP	10.453 (2350)	1.201 (270)	2.669 (600)/50	1, 2, 3	P, E	NP	NP	NP	NP	NP	NP	P, F, P

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- [2] PP = Polypropylene, PET = Polyester, * = average
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- RF_D = Reduction factor for durability
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GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications									Reinforcement Applications				Other Manufacturer's Suggested Applications [8]	
		Filtration/Hydraulic Properties			Physical Properties						Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)		LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)
										MD	XD	MD	XD			

Tygar Geosynthetics | www.tygar-geosynthetics.com

Tygar 3201 NW-PP-t	65* (1.9)	NA	0.59 (30)	1.0/7790 (190), FH	NP	0.110 (25)	0.267 (60)/60	NP	NP	NP	NP	NP	NP	NA	NA	SP, D
Tygar 3301 NW-PP-t	104* (3.0)	NA	0.30 (50)	0.8/3895 (95), FH	NP	0.156 (35)	0.533 (120)/60	NP	NP	NP	NP	NP	NP	NA	NA	SP, S/F, F, D
Tygar 3341 NW-PP-t	116* (3.4)	NA	0.20 (70)	0.7/3485 (85), FH	NP	0.18 (40)	0.533 (120)/60	NP	NP	NP	NP	NP	NP	NA	NA	SP, ST, F, D, E, P
Tygar 3401 NW-PP-t	136* (4.0)	NA	0.21 (70)	0.7/2460 (60), FH	0.99 (225)	0.270 (60)	0.578 (130)/60	3	SP, ST, D, E	NP	NP	NP	NP	NA	NA	SP, ST, F, D, E, P
Tygar 3501 NW-PP-t	170* (5.0)	NA	0.20 (70)	0.5/2050 (50), FH	1.375 (310)	0.270 (60)	0.710 (160)/60	2	SP, ST, D, E	NP	NP	NP	NP	NA	NA	F, D, SP, ST, E, P
Tygar 3601 NW-PP-t	204* (6.0)	NA	0.10 (140)	0.10/615 (15), FH	1.650 (370)	0.400 (90)	1.067 (240)/60	2	SP, ST, D, E	NP	NP	NP	NP	NA	NA	F, D, SP, ST, E, R, P
Tygar 3801 NW-PP-t	272* (8.0)	NA	0.09 (170)	0.10/328 (8), FH	2.285 (510)	0.425 (95)	1.335 (300)/60	1	SP, ST, D, E	NP	NP	NP	NP	NA	NA	E, SP, ST, R, P
Tygar 3100 NW-PP-t	339* (10.0)	NA	0.074 (200)	0.123/328 (8) FH	3.136 (697)	0.556(125)	2.000 (450)/60	1	SP, ST, D, E	NP	NP	NP	NP	NA	NA	E, SP, ST, R, P
Terram T900 NW-PP/PE-t	NP	NA	0.206 (70)	2.1/6300 (154), FH	1.35 (304)	0.275 (62)	0.6 (135)/60	3	SP, ST, D, E	NP	NP	NP	NP	NA	NA	SP, ST, F, D, E, P
Terram T1000 NW-PP/PE-t	NP	NA	0.208 (70)	2.0/6000 (146), FH	1.5 (337)	0.3 (67)	0.66 (148)/60	2	SP, ST, D, E	NP	NP	NP	NP	NA	NA	F, D, SP, ST, E, R, P
Terram T1300 NW-PP/PE-t	NP	NA	0.148 (100)	1.6/4800 (117), FH	2 (450)	0.41 (92)	0.9 (202)/60	2	SP, ST, D, E	NP	NP	NP	NP	NA	NA	E, SP, ST, R, P
Terram T1500 NW-PP/PE-t	NP	NA	0.143 (100)	1.5/4500 (110), FH	2.25 (506)	0.47 (106)	0.97 (218)/60	1	SP, ST, D, E	NP	NP	NP	NP	NA	NA	E, SP, ST, R, P

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Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications									Reinforcement Applications						Other Manufacturer's Suggested Applications [8]
	Filtration/Hydraulic Properties				Physical Properties					Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%				Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]				
										MD	XD	MD	XD			
US Fabrics www.usfabrics.com																
SF 40	NA	NA	0.25 (60)	0.8	NR	0.267 (60)	0.578 (130)/50	3*	D	NA	NA	NA	NA	NA	NA	NA
US 200	NA	NA	0.43 (40)	0.05	3.115 (700)	0.334 (75)	0.890 (200)/15	3	NP	NA	NA	NA	NA	NA	NA	NA
US 315	NA	NA	0.425 (40)	0.05	4.450 (1000)	0.533 (120)	1.402 (315)/15	1	SP	NA	NA	NA	NA	NA	NA	NA
US 4800	410 (12.1)	NA	0.180 (80)	0.15	6.228 (1400)	0.890 x 0.890 (200 x 200)	2.669 x 2.669 (600 x 600)/20 x 15	NA	SP	24.6 (140.3)	41.4 (236.2)	70 (400)	70 (400)	NA	NA	NA
US 670	190 (5.6)	4-6	0.212 (70)	0.28	4.228 (950)	0.445 x 0.267 (100 x 60)	1.646 x 1.112 (370 x 250)/15 x 15	2, 3	DE	NA	NA	NA	NA	NA	NA	NA
US 90NW	119 (3.5)	NA	0.300 (50)	2.0	1.179 (265)	0.178 (40)	0.401 (90)/50	NA	NP	NA	NA	NA	NA	NA	NA	NA
US 120NW	142 (4.5)	NA	0.212 (70)	1.7	1.513 (340)	0.222 (50)	0.533 (120)/50	3	S/F	NA	NA	NA	NA	NA	NA	NA
US 160NW	203 (6.0)	NA	0.212 (70)	1.5	1.824 (410)	0.267 (60)	0.711 (160)/50	2	SP, D	NA	NA	NA	NA	NA	NA	NA
US 180NW	237 (7.0)	NA	0.212 (70)	1.4	2.114 (475)	0.333 (75)	0.800 (180)/50	NA	SP, D	NA	NA	NA	NA	NA	NA	NA
US 205NW	271 (8.0)	NA	0.180 (80)	1.35	2.381 (535)	0.378 (85)	0.912 (205)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	NA

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GEOTEXTILES

Product Name (Structure [1]/ Polymer Type [2])	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	M288 Transportation-Related Applications								Reinforcement Applications						Other Manufacturer's Suggested Applications [8]
		Filtration/Hydraulic Properties				Physical Properties				Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%				Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
		Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]				
										MD	XD	MD	XD			

Willacoochee Industrial Fabrics Inc. | www.winfabusa.com

WINFAB 270HP	NA	NA	0.60 (30)	0.70/2037 (50), CH	5.12 (1150)	578 x 445 (130 x 100)	1.33 x 1.11 (300 x 250)	2,3	SP	21.9 (125)	21 (120)	41.6 (237.5)	36.5 (208.3)	NA	NA	E, D, F, R, ST
WINFAB 2x2HF	NA	NA	0.425 (40)	0.70/2037 (50), CH	6.23 (1400)	0.556 x 0.556 (125 x 125)	1.424 x 1.424	1, 2, 3	D,E,SP,ST	16 (91.7)	24.8 (142)	39.4 (225)	40.9 (233.3)	NA	NA	F, R
WINFAB 370HP	NA	NA	0.60 (30)	0.52/1630 (40), CH	NA	NA	NA	1, 2, 3	SP	21.9 (125)	22.8 (130)	52.5 (300)	48.2 (225)	NA	NA	E, D, F, R, ST
WINFAB 3x3HF	NA	NA	0.60 (30)	0.52/1630 (40), CH	7.12 (1600)	0.801 x 0.623 (180 x 140)	2.003 x 1.558 (450 x 350) 15 x 6	1, 2, 3	SP	20.3 (116)	25.4 (145)	52.5 (300)	52.5 (300)	NA	NA	E, D, F, R, ST
WINFAB 570HP	NA	NA	0.60 (30)	0.4/1222 (30), CH	9.79 (2200)	0.89 x 0.89 (200 x 200)	2.114 x 1.958 (475 x 440) 15 x 15	1, 2, 3	SP	39.4 (225)	43.8 (250)	73 (417)	75.9 (433)	NA	NA	E, D, F, R, ST
WINFAB 4x4	NA	NA	0.60 (30)	0.15/407.4 (10), CH	9.79 (2200)	0.89 x 0.89 (200 x 200)	2.558 x 2.225 (570 x 500) 15 x 12	1, 2, 3	SP	21.2 (121)	38 (217)	70 (400)	70 (400)	NA	NA	E, D, F, R, ST
WINFAB 4x6	NA	NA	0.425 (40)	0.26/815 (20), CH	13.34 (3000)	0.801 x 1.224 (180 x 275)	2.67 x 3.115 (600 x 700) 15 x 15	1, 2, 3	D, E, SP, ST	33.6 (191.7)	58.36 (333.3)	84.62 (483.3)	116.72 (666.7)	NA	NA	F, R
WINFAB 6x6	NA	NA	0.60 (30)	.23/611 (15), CH	NA	NA	NA	1, 2, 3	SP	43.8 (250)	58.4 (333.3)	105.1 (600)	105.1 (600)	NA	NA	E, D, F, R, ST
WINFAB 6x9	NA	NA	0.60 (30)	NA	NA	NA	NA	1, 2, 3	SP	21.9 (125)	78.8 (450)	105.04 (600)	157.57 (900)			
WINFAB 770HP	NA	NA	0.6 (30)	0.23/611 (15), CH	NA	NA	NA	1, 2, 3	SP	52.5 (300)	52.5 (300)	138.6 (708.3)	87.5 (500)	NA	NA	E, D, F, R, ST
WINFAB 2197	NA	10	0.425 (40)	2.1/5907 (145), CH	3.336 (750)	0.512 x 0.334 (115 x 75)	1.624 x 0.89 (365 x 200) 24 x 15	3	NA	NA	NA	35 (200)	24.52 (140)	NA	NA	D, E, F
WINFAB 2198	NA	6	0.425 (40)	0.5/2460 (60), CH	3.559 (800)	0.445 x 0.312 (100 x 70)	1.557 x 0.89 (350 x 200) 15 x 15	3	NA	NA	NA	NA	NA	NA	NA	D, E, F
WINFAB 2199	NA	4	0.212 (70)	0.28/733 (18), CH	4.228 (950)	0.445 x 0.445 (100 x 100)	1.779 x 1.3345 (400 x 300) 15 x 15	2,3	D,E,SP	NA	NA	39.4 (225)	33.56 (191.7)	NA	NA	F
WINFAB 2300	NA	8	0.60 (30)	1.5/4685 (115), CH	5.563 (1250)	0.645 x 0.556 (145 x 125)	1.78 x 1.491 (400 x 335) 20 x 15	1, 2, 3	SP	NA	NA	40.3 (230)	39.4 (225)	NA	NA	D, E, F
WINFAB 2404	NA	1	0.425 (40)	0.96/2852 (70), CH	5.118 (1150)	0.668 x 0.734 (150 x 165)	1.78 x 1.402 (400 x 315) 15 x 15	1, 2, 3	D, E, SP, ST	NA	NA	43.8 (250)	40.3 (230)	NA	NA	F

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W = Woven, -SF = slit film t = thermally bonded
K = Knitted O/C = Other/combination
[2] PP = Polypropylene, PET = Polyester, * = average
[3] FH = Test is run by the falling head method
CH = Test is run by the constant head method
[4] SP = Separation S/F = Silt Fence
ST = Stabilization D = Drainage
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A/O = Asphalt overlay
[5] MD = Machine direction XD = Cross-machine direction

- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period
[7] $LTDS = \frac{T_{ult}}{RF_{cr} \times RF_{id} \times RF_{d}}$
RF_{cr} = Reduction factor for creep
RF_{id} = Reduction factor for installation damage
RF_d = Reduction factor for durability

NOTE: this equation does not include other reduction factors which may apply to design. Reduction factors are site specific and should be reviewed on a per project basis. Contact the manufacturer for recommendations.

- [8] R = Reinforcement P = Protection
SP = Separation S/F = Silt Fence
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Product Name (Structure [1]/ Polymer Type [2])	M288 Transportation-Related Applications										Reinforcement Applications					Other Manufacturer's Suggested Applications [8]
	Filtration/Hydraulic Properties				Physical Properties						Wide Width Tensile/Elongation ASTM D 4595 kN/m (lb/in)/%					
	Mass Per Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Percent Open Area CWO-22125 %	Apparent Opening Size ASTM D 4751 mm (U.S. sieve)	Permittivity ASTM D 4491 sec-1 Flow Rate (FH or CH) [3] l/min/m ² (gal/min/ft ²)	Puncture ASTM D 6241 kN (lb)	Trapezoid Tearing Strength ASTM D 4533 kN (lb)	Grab Tensile/Elongation ASTM D 4632 kN (lb)/%	M288 Survivability Class	M288 Applications [4]	Strength @ 5% Strain [5]		Ultimate Strength % (Tult) [5]		Creep Limited Strength-MD ASTM D 5262 [6] kN/m (lb/ft)	LTDS GRI GT7-MD (in sand) [7] kN/m (lb/ft)	
										MD	XD	MD	XD			

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WINFAB 200W	NA	NA	0.425 (40)	0.05/204 (5), FH	3.114 (700)	0.33 x 0.33 (75 x 75)	0.89 x 0.89 (200 x 200) 15 x 15	3	SP	NA	NA	NA	NA	NA	NA	ST
WINFAB 250W	NA	NA	0.425 (40)	0.05/163 (4), FH	3.338 (750)	0.4 x 0.4 (90 x 90)	1.113 x 1.113 (250 x 250) 15 x 15	2, 3	SP	NA	NA	NA	NA	NA	NA	ST
WINFAB 315W	NA	NA	0.425 (40)	0.05/163 (4), FH	4.005 (900)	0.503 x 0.503 (113 x 113)	1.402 x 1.402 (315 x 315) 15 x 15	1, 2, 3	SP, ST	NA	NA	NA	NA	NA	NA	R
WINFAB 310N	NA	NA	0.3 (50)	2.2/6112 (150), CH	0.775 (175)	0.111 x 0.111 (25 x 25)	0.355 x 0.355 (80 x 80) 50 x 50	NA	NA	NA	NA	NA	NA	NA	NA	D, E, F
WINFAB 350N	NA	NA	0.3 (50)	2.0/6112 (150), CH	1.157 (260)	0.178 x 0.178 (40 x 40)	0.401 x 0.401 (90 x 90) 50 x 50	NA	NA	NA	NA	NA	NA	NA	NA	D, E, F
WINFAB 400N	NA	NA	0.212 (70)	2.0/5704 (140), CH	1.334 (300)	0.2 x 0.2 (45 x 45)	0.445 x 0.445 (100 x 100) 50 x 50	NA	NA	NA	NA	NA	NA	NA	NA	D, E, F
WINFAB 450N	NA	NA	0.212 (70)	1.7/4889 (120), CH	1.49 (335)	0.222 x 0.222 (50 x 50)	0.534 x 0.534 (120 x 120) 50 x 50	3	D, SP, ST	NA	NA	NA	NA	NA	NA	E, F
WINFAB 600N	NA	NA	0.212 (70)	1.4/4276 (105), CH	1.825 (410)	0.267 x 0.267 (60 x 60)	0.711 x 0.711 (160 x 160) 50 x 50	2, 3	D, SP, ST	NA	NA	NA	NA	NA	NA	E, F
WINFAB 700N	NA	NA	0.212 (70)	1.4/4074 (100), CH	2.047 (460)	0.333 x 0.333 (75 x 75)	0.8 x 0.8 (180 x 180) 50 x 50	2, 3	D, SP, ST	NA	NA	NA	NA	NA	NA	E, F
WINFAB 800N	NA	NA	0.18 (80)	1.3/3667 (90), CH	2.336 (525)	0.356 x 0.356 (80 x 80)	0.912 x 0.912 (205 x 205) 50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
WINFAB 1000N	NA	NA	0.18 (80)	1.2/3454 (85), CH	2.781 (625)	0.445 x 0.445 (100 x 100)	1.113 x 1.113 (250 x 250) 50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
WINFAB 1000NE	339 (10)	NA	0.15 (100)	.94/3055 (75), CH	3.225 (725)	0.445 x 0.445 (100 x 100)	1.201 x 1.201 (270 x 270) 50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
WINFAB 1200N	NA	NA	0.15 (100)	1.0/3055 (75), CH	3.671 (825)	0.511 x 0.511 (115 x 115)	1.335 x 1.335 (300 x 300) 50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F
WINFAB 1600N	NA	NA	0.15 (100)	.70/2037 (50), CH	4.561 (1025)	0.644 x 0.644 (145 x 145)	1.69 x 1.69 (380 x 380) 50 x 50	1, 2, 3	D, E, SP, ST	NA	NA	NA	NA	NA	NA	F

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