



FOR MORE INFORMATION

Information on the geotextile specification charts has been provided 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

All information included in this Specifier's Guide was compiled from information submitted by firms in the geosynthetics industry. Specifications were submitted voluntarily and their 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 Specifier's Guide is intended as a guide, and *Geosynthetics* and IFAI encourage readers to contact the companies listed for further information.

These products are engineered to provide cost-effective solutions 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 needlepunched 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.

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 GT50-II PP (W/PP)	NP	NP	0.425 (40)	0.60/1800 (43), CH	4.2 (943)	0.6 x 0.6 (135 x 122)	1.8 x 1.5 (404 x 337)/NP	NP	F, SP, ST	NP	NP	50 (285)	50 (285)	NP	NP	F, R, SP, ST
ACETex GT70-I PP (W/PP)	NP	NP	0.425 (40)	0.60/1800 (43), CH	9.0 (2021)	0.9 x 1.7 (202 x 382)	2.5 x 3.5 (449 x 786)/NP	NP	F, SP, ST	NP	NP	70 (399)	105 (599)	NP	NP	F, R, SP, ST
ACETex GT300-II (W/PET)	NP	NP	NP	NP	NP	NP	NP	NP	ST	NP	NP	300 (1714)	300 (1714)	NP	NP	R, SP, ST
ACETex GT600-I (W/PET)	NP	NP	NP	NP	NP	NP	NP	NP	ST	240(1370)	NP	600 (3427)	NP	NP	NP	R
ACETex GT1200-I (W/PET)	NP	NP	NP	NP	NP	NP	NP	NP	ST	450(2568)	NP	1200 (6854)	NP	NP	NP	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

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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.

- [8] R = Reinforcement P = Protection
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		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				

Belton Industries Inc. | www.beltonindustries.com

Beltech 315 (W-SF/PP)	223 (6.6) Typical	NA	0.50 (35)	0.04/95 (2.4), FH	6.32 (1159)	0.68 (125)	1.80 (330)/17	1	ST	NP	NP	38.1 (217) 19	36.3 (207) 14	NP	NP	ST
Beltech 2x2 (W-SF/PP)	229 (6.9) Typical	NA	.710 (25)	0.53/1625 (40), FH	5.73 (1050)	0.7 x 0.6 (125x110)	1.65x1.31 (300 x 240)	NP	NP	NP	NP	36.0 (205) 15	36.5 (209) 8.3	NP	NP	ST
Beltech 4x6 (W-SF/PP)	543 (16) Typical	NA	0.600 (30)	0.26/780 (19), FH	12.6 (2830)	1.52 x 2.12 (279x389)	NP	NP	NP	16 (90)	50 (286)	69 (396) 14	107 (608) 11	NP	NP	ST
Beltech 940 (W-SF/PP)	97 (2.9) Typical	NA	0.90 (18)	0.04/100 (2.5), FH	NP	0.34 x 0.31 (62x57)	0.78x0.56 (140 x 102)/18x13	NA	S/F	NP	NP	NP	NP	NP	NP	S/F

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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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				
R031* (NW/PP)	NA	NA	0.425 (40)	2.1/6095 (150), FH	.76 (175)	.11 (25)	.35 (80)/50	NA	NA	NA	NA	NA	NA	NA	NA	F, D, SP, E, S/F	
R035* (NW/PP)	NA	NA	0.30 (50)	2.1/6095 (150), FH	1.11 (250)	0.178 (40)	0.400 (90)/50	NA	NA	NA	NA	NA	NA	NA	NA	F, D, SP, E, S/F	
R040* (NW/PP)	NA	NA	0.25 (60)	1.9/5704 (140), FH	1.20 (270)	0.200 (45)	0.444 (100)/50	NA	NA	NA	NA	NA	NA	NA	NA	F, D, SP, E, S/F	
R042* (NW/PP)	NA	NA	0.212 (70)	1.7/4885 (120), FH	1.38 (310)	0.222 (50)	0.533 (120)/50	3	S/F	NA	NA	NA	NA	NA	NA	F, D, SP, E, S/F	
R060* (NW/PP)	NA	NA	0.212 (70)	1.5/4880 (110), FH	1.82 (410)	0.267 (60)	0.711 (160)/50	2	SP, D	NA	NA	NA	NA	NA	NA	F, D, SP, E, ST	
R080* (NW/PP)	NA	NA	0.180 (80)	1.3/3765 (90), FH	2.33 (525)	0.356 (80)	0.911 (205)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP	
R100* (NW/PP)	NA	NA	.150 (100)	1.1/3251 (80), FH	2.89 (650)	.444 (100)	1.11 (250)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	P, F, D, E, SP, ST	
R160* (NW/PP)	NA	NA	.150 (100)	.7/2035 (50), FH	4.56 (1025)	.644 (145)	1.69 (380)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	P, F, D, E, SP, ST	
E100P* (NW/PP)	NA	NA	.150 (100)	1.0/3055 (75), FH	2.89 (650)	.444 (100)	1.20 (270)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	P, F, D, E, SP, ST	
W200 (W/PP)	NA	NA	.425 (40)	.05/200 (5), FH	3.11 (700)	.334 (75)	.890 (200)/12	3	SP, ST	NA	NA	NA	NA	NA	NA	SP, ST	
W315 (W/PP)	NA	NA	.425 (40)	.05/163 (4), FH	4.0 (900)	.533 (120)	1.40 (315)/12	1	SP, ST	NA	NA	NA	NA	NA	NA	SP, ST	
CR1 (W/PP)	NA	NA	.60 (30)	.05/163 (4), FH	NA	.44 x .44 (100 x 100)	NA	1	ST, R	NA	NA	47.3 (270)	47.3 (270)	NA	NA	ST, SP, R	
CO39* (NW/PP)	NA	NA	NA	NA	NA	NA	.4 (90)/50	NA	paving	NA	NA	NA	NA	NA	NA	paving	
CO40* (NW/PP)	140 (4.1)	NA	NA	NA	NA	NA	.45 (101)/50	paving	paving	NA	NA	NA	NA	NA	NA	paving	
CO50 (NW/PP)	153 (4.5)	NA	NA	NA	NA	NA	.53 (120)/50	paving	paving	NA	NA	NA	NA	NA	NA	paving	

* AASHTO NTPEP styles

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										MD	XD	MD	XD			

Dalco Nonwovens | www.dalcononwovens.com

Dalco 1031 (NW-P/PP)	NP	NP	.30 (50)	2.2/6927 (170), CH	.934 (210)	.11 (25)	.35 (80)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1035 (NW-P/PP)	NP	NP	.30 (50)	2.1/6095 (165), CH	1.157 (260)	.178 (40)	.401 (90)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1040 (NW-P/PP)	NP	NP	.212 (70)	2.0/5700 (140), CH	1.379 (310)	.202 (45)	.45 (100)/50	NP	NP	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1045 (NW-P/PP)	NP	NP	.212 (70)	1.8/4885 (120), CH	1.490 (335)	.22 (50)	.54 (120)/50	3	SP, D, F, E	NA	NA	NA	NA	NA	NA	F, D, E
Dalco 1060 (NW-P/PP)	NP	NP	.212 (70)	1.4/4479 (110), CH	1.824 (410)	.269 (60)	.71 (160)/50	2	SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1070 (NW-P/PP)	NP	NP	.212 (70)	1.4/4479 (110), CH	2.046 (460)	.333 (75)	.80 (180)/50	2	SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1080 (NW-P/PP)	NP	NP	.18 (80)	1.3/4074 (100), CH	2.335 (525)	.359 (80)	.91 (205)/50	1	ST, SP, D, F, E	NP	NP	NP	NP	NP	NP	P
Dalco 1100 (NW-P/PP)	NP	NP	.18 (80)	1.2/3251 (80), CH	2.780 (625)	.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	.15 (100)	0.9/3055 (75), CH	3.670 (825)	.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	.15 (100)	.7/2035 (50), CH	4.559 (1025)	.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	.15 (100)	.94/3055 (75), CH	3.225 (725)	.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 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
Geonia DM-20/20 (W/PET)	NP	NA	NP	0.5/1500 (36.8)CH	15 (3370)	NA	NA	NA	NA	70 (400)	70 (400)	200/12 (1142)	200/12 (1142)	131 (8954)	103 (7078)	R, SP, ST
Geonia DM-30/30 (W/PET)	NP	NA	NP	1/3000 (73.6)CH	NP	NA	NA	NA	NA	NP	NP	300/15 (1173)	300/15 (1173)	196 (13431)	155 (10617)	R, SP, ST
Geonia DM-40/40 (W/PET)	NP	NA	NP	1/3000 (73.6)CH	NP	NA	NA	NA	NA	NP	NP	400/15 (2284)	400/15 (2284)	261 (17908)	207 (14156)	R, SP, ST

GEONIA | www.geonia.com

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- [2] PP = Polypropylene, PET = Polyester, * = average
- [3] FH = Test is run by the falling head method
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- [4] SP = Separation S/F = Silt Fence
ST = Stabilization D = Drainage
F = Filtration E = Erosion Control
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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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			

GSE Environmental | www.gseworld.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

Additional heavy weights available

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- [6] For a minimum of 10,000 hours, extrapolated to a 75 year time period $\frac{T_{ult}}{t}$
- [7] LTDS = $\frac{RF_{CR} \times RF_{ID} \times RF_D}{T_{ult}}$
- RF_{CR} = Reduction factor for creep
- RF_{ID} = Reduction factor for installation damage
- RF_D = Reduction factor for durability
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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			
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 (8905)	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 (13,357)	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 (17,810)	215 (14,719)	R
Stabilenka® 600 (W/PET)	1050 (31)	NA	NA	NA	NA	NA	NA	NA	NA	300 (1712)	NA	600/10 (3425)	N/A	389 (26,688)	322 (22,056)	R
Stabilenka® 800 (W/PET)	1450 (42.7)	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
Comtrac® P45.45 (W/PP)	240 (7)	NA	0.4 (40)	0.15 (CH) 450 (11)	6.7 (1000)	0.5 x 0.5 (120 x 120)	1.6 x 1.6 (350 x 350) 20 x 15	2, 3	SP	20 (114)	29 (165)	46 (262)	50 (288)	NA	NA	ST, R
Comtrac® P80.80 (W/PP)	430 (12.7)	NA	0.18 (80)	0.2 (CH) 612 (15)	7.1 (1600)	1 x 1 (220 x 220)	2.9 x 2.7 (650 x 600) 20 x 15	1, 2, 3	SP, ST	24 (137)	47 (268)	80 (457)	80 (457)	NA	NA	ST, R
Comtrac® P105.105 (W/PP)	500 (15)	NA	0.33 (45)	0.33 (CH) 813 (20)	16.3 (3666)	1.4 x 1.4 (320 x 320)	3.6 x 3.3 (800 x 750) 20 x 15	1, 2, 3	SP, ST	50 (285)	55 (315)	105 (600)	105 (600)	NA	NA	ST, R

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RF_{cr} = Reduction factor for creep
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RF_d = Reduction factor for durability

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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			
Low & Bonar Inc. www.lowandbonar.com																
Enkaforce G 300/100 (W-PET)	NP	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	300 (1700)	100 (570)	NP	NP	R, ST, F
Enkaforce G 600/100 (W-PET)	NP	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	600 (3400)	100 (570)	NP	NP	R, ST, F
Enkaforce G 1250/100 (W-PET)	NP	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	1250 (7100)	100 (570)	NP	NP	R, ST, F
Enkaforce G 1000/50 (W-PVA)	NP	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	1000 (5700)	50 (285)	NP	NP	R, ST, F
Propex GeoSolutions www.propexglobal.com																
GEOTEX® 401 (NW-P/PP)	NA	NA	0.212 (70)	1.7 / 5, 704 (140), CH	1.379 (310)	0.222 (50)	0.534 (120) / 50	3	D, SP	NA	NA	NA	NA	NA	NA	F, D, E
GEOTEX® 601 (NW-P/PP)	NA	NA	0.212 (70)	1.3 / 4,482 (110), CH	1.824 (410)	0.267 (60)	0.712 (160) / 50	2, 3	D, SP, ST	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)	0.356 (80)	0.912 (205) / 50	1, 2, 3	E, ST, SP	NA	NA	NA	NA	NA	NA	F, D, E, ST, SP
GEOTEX® 1001 (NW-P/PP)	NA	NA	0.150 (100)	1.2 / 3,463 (85), CH	2.780 (625)	0.445 (100)	1.112 (250) / 50	1, 2, 3	E, ST, SP	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	4,559 (1025)	0.667 (150)	1.690 (380) / 50	1, 2, 3	E, ST, SP	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)	0.334 (75)	0.890 (200) / 15	3	SP	NA	NA	NA	NA	NA	NA	SP, ST
GEOTEX® 350ST (W-PP)	NA	NA	0.600 (30)	0.35 / 1,222 (30), FH	5.338 (1,200)	0.578 (130)	2.002 x 1.557 (450 x 350) / 15			19.8 (113)	19.8 (113)	52.5 (300)/8	47.3 (270)/8	10 (12)	10 (12)	R, SP, ST
GEOTEX® 2X2HF (W-PP)	NA	NA	0.600 (30)	0.7 / 2,037 (50), FH	5.783 (1,300)	0.556 (125)	NA			17.7 (101)	19.8 (113)	38.5 (220)/7	35.9 (205)/7	8 (44)	8 (44)	F, SP, D, ST, R, E
GEOTEX® 4X4HF (W-PP)	NA	NA	0.600 (30)	0.26 / 1,222 (30), FH	8.896 (2,000)	0.801 (180)	NA			35.0 (200)	39.4 (225)	70.1 (400)/9	70.1 (400)/9	14 (80)	14 (80)	F, SP, D, ST, R, E
PETROMAT® 4598 (NW-P/PP)	140 (4.1)	NA	NA	NA	NA	NA	0.450 (101) / 50	NA	A/O	NA	NA	NA	NA	NA	NA	A/O
REFLECTEX® (NW-P/PP)	510 (15.0)	NA	N	NA	NA	NA	n	NA		NA	NA	10 (57)	10 (57)	NA	NA	SP, F, P

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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			
Saint-Gobain ADFORS America www.adfors.com																
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																
SKAPS Industries www.skaps.com																
GC140 (NW-P/PP)	143 (4.2)	NA	NA	NA	1.24 (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	4.82 (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)	1.7/4885 (120), 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)	1.3/3657 (90), CH	2.38 (535)	0.356 (80)	0.911 (205)/50	1	SP, D, ST, E	NA	NA	NA	NA	NA	NA	S/F, F, E, D
SW200 (NW-SF/PP)	NP	1	0.425 (40)	0.05/163 (4), CH	4.45 (1000)	0.533 (120)	1.40 (315)/15	3	NP	NP	NP	NP	NP	NP	NP	NP
SW315 (W/PP)	NP	1	0.425 (40)	0.05/203 (5), CH	3.12 (700)	0.333 (75)	0.90 (200)/15	1	SP	NP	NP	NP	NP	NP	NP	SF

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- [2] PP = Polypropylene, PET = Polyester, * = average
- [3] FH = Test is run by the falling head method
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- [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
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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				

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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
PN-100 (NW/PP)	NP	NP	0.70 (200)	0.1/300 (7.35),CH	11.0(2472)	1.6 (359)	3.0 (674)/50			NA	NA	55 (312)	60 (340)	NA	NA	ST, SP, R

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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)	0.5 x 0.5 (113 x 113)	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 115)	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 0.668 (150 x 165)	1.8 x 1.4 (400 x 315)/15 x 15	1, 2, 3	D, E	17.5 (100)	17.5 (100)	43.8 (250)	40.3 (230)	NA	NA	F
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 8	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

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

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

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

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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			
Mirafi HP570 (W/PP)	NA	NA	0.60 (30)	0.4/1222 (30), CH	8.9 (2000)	0.8 x 0.8 (180 x 180)	2.2x2.1 (500 x 475)/11 x 4	1, 2, 3	SP	35.0 (200)	39.4 (225)	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 275)	2.7 x 3.1 (600 x 700)/15 x 15	1, 2, 3	SP, ST	17.5 (100)	61.3 (350)	70.0 (400)	96.3 (550)	NA	NA	R, E
Mirafi HP770 (W/PP)	NA	NA	0.085 (20)	0.23/611 (15), CH	8.5 (1900)	0.890 x 0.979 (200 x 220)	2.4 x 2.0 (550 x 450) 12 x 6	1, 2, 3	SP, ST	52.5 (300)	52.5 (300)	105.1 (600)	84.0 (480)	NA	NA	R
Mirafi PET70/70 (W/PET)	NA	NA	0.425 (40)	0.1/407 (10), CH	NA	NA	NA	NA	NA	15.8 (90)	35.0 (200)	70.0 (400)	70.0 (400)	NA	NA	R
Mirafi PET100 (W/PET)	NA	NA	0.85 (20)	0.32/815 (20), CH	NA	NA	NA	NA	NA	35.0 (200)	NP	105.1 (600)	NP	63.0 (4320)	49.9 (3420)	R
Mirafi PET200 (W/PET)	NA	NA	0.60 (30)	0.32/2037 (50), CH	NA	NA	NA	NA	NA	87.6 (500)	NP	201.4 (1150)	NP	120.8 (8280)	95.5 (6545)	R
Mirafi PET300 (W/PET)	NA	NA	0.85 (20)	0.1/407 (10), CH	NA	NA	NA	NA	NA	122.6 (700)	NP	300 (1715)	NP	180.2 (12348)	148.9 (10205)	R
Mirafi PET600/100 (W/PET)	NA	NA	NA	NA	NA	NA	NA	NA	NA	210 (1200)	NP	600 (3427)	100 (571)	360 (24674)	297.6 (20392)	R
Mirafi PET1000/100 (W/PET)	NA	NA	NA	NA	NA	NA	NA	NA	NA	400 (2284)	NP	1000 (5710)	100 (571)	600 (41113)	495.9 (33980)	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])	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			

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

GlasPave® 25	136 (4.0)	NA	NA	NA	NA	NA	25 kN/m (170 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 (280 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

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	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	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	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	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	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	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	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	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	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	P, SP, D, E, ST

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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			
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 (125x101)/15	NP	SF unsupported	NP	NP	NP	NP	NP	NP	S/F

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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			
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
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 (150x165)	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 (166x145)	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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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			
Typar 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
Typar 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
Typar 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
Typar 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
Typar 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
Typar 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
Typar 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
Typar 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 T700 NW-PP/PE-t	NP	NA	0.294(50)	2.6/7800 (190), FH	1.05 (236)	0.25 (56)	0.5 (112)/60	NP	SP, ST, D, E	NP	NP	NP	NP	NA	NA	SP, S/F, F, D
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)/%						
	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			
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 250	NA	NA	0.425 (40)	0.05	4.005 (900)	0.405 (90)	1.112 (250) / 15	2	ST, SP	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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		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			

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WINFAB 270HP	NA	NA	0.60 (30)	0.70/2037 (50), CH	NA	NA	NA	2,3	SP	17.7 (101)	19.8 (113)	38.5 (220)	35.9 (205)	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)	1.402 x 1.402 (315x315) 15 x 15	1,2,3	D, E, SP, ST	11.4 (65)	20.5 (117)	35 (200)	35 (200)	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)	39.4 (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	35 (200)	39.4 (225)	70 (400)	70 (400)	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	10.676 (2400)	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	17.5 (100)	38.5 (220)	70 (400)	105.1 (600)	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)	105.1 (600)	84 (480)	NA	NA	E, D, F, R, ST
WINFAB 2196	NA	6	0.425 (40)	1.5/4480 (110), CH	3.113 (700)	.4 x .285 (90 x 65)	1.557 x 0.89 (350 x 200) 15 x 15	3	NA	NA	NA	NA	NA	NA	NA	D, E, F
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 0.267 (100 x 60)	1.647 x 1.113 (370 x 250) 15 x 15	2,3	D, E, SP	NA	NA	39.4 (225)	25.39 (145)	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 2403	NA	6	0.425 (40)	0.96/2852 (70), CH	5.963 (1340)	0.645 x 0.556 (145 x 125)	1.891 x 1.558 (425 x 350) 21 x 21	1,2,3	D, E, SP, ST	NA	NA	47.3 (270)	39.4 (225)	NA	NA	F

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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.

- [8] R = Reinforcement P = Protection
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« Geosynthetics recommends you contact the manufacturers before making any specifying/purchasing decisions »

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			
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
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)	0.533 x 0.533 (120 x 120)	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	0.934 (210)	0.134 x 0.134 (30 x 30)	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	1.38 (310)	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)	1.8/4889 (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)	1.5/4482 (110), 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)	1.5/4074 (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)	1.4/3667 (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	0.15 (100)	1.2/3251 (80), 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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