



GEOGRIDS

PRODUCT DATA

FOR MORE INFORMATION

The specification charts have 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 geogrids is also available from the Geosynthetic Materials Association (GMA).

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Roseville, MN 55113-4061 USA
+1 651 225 6907
fax +1 651 631 9334
amaho@ifai.com
www.gmanow.com

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.

Geogrid products are designed for reinforcement and, characteristically, are integrally connected to elements separated by in-plane apertures.

Geogrids form a distinct category of geosynthetics designed for reinforcement. These products are characterized by a relatively high tensile strength and a uniformly distributed array of large apertures (openings between the longitudinal and transverse elements). The apertures allow soil particles on either side of the installed sheet to come into direct contact, thereby increasing the interaction between the geogrid and some soils. Also, the apertures ensure vertical drainage of a reinforced free-draining soil.

The geogrid elements vary in polymer type and cross-sectional dimensions. They can sometimes change shape and dimensions within their length. Geogrids are either integrally manufactured, ultrasonically or adhesive bonded, or joined in a knitting or weaving process and then coated.

Although geogrids are used primarily for reinforcement, some products are designed for asphalt overlay and waterproofing or for separation and stabilization. Geogrids also are used as gabions and sheet anchors, inserted between geotextiles and geomembranes, or used to construct mattresses for fills or embankments over soft soils.

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	Manufacturing Process	Polymer Type [1]	Coating Type [1]	Dimensional Properties [2]			Tensile Strength/[Elongation] ASTM D 6637 [2] kN/m (lb/ft)/%				Creep Limited Strength-MD [3] ASTM D 5262 kN/m (lb/ft)	LTDS GRI GG4-MD [4] kN/m (lb/ft) (in sand)	Manufacturer's Suggested Applications [5]
				Mass/Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			

ACE Geosynthetics Inc. | www.geoace.com

ACEGrid GG400-II	woven	PET	PVC	NP	20 (0.8)	30 (1.2)	125 (8555)	NP	400 (27375)	400 (27375)	283 (19368)	264 (18067)	B, W, S, E, SI
ACEGrid GG900-I	woven	PET	PVC	NP	20 (0.8)	20 (0.8)	270 (18478)	NP	900 (61593)	NP	638 (43663)	620 (42431)	B, W, S, E, SI
ACEGrid GV400-I	woven	PVA	PVC	NP	30 (1.2)	28 (1.1)	NP	NP	400 (27375)	NP	NP	NP	B, W, S, E, SI
ACEGrid GV800-I	woven	PVA	PVC	NP	40 (1.6)	18 (0.7)	NP	NP	800 (54749)	NP	NP	NP	B, W, S, E, SI
ACEGrid GG55-II FR	woven	PET	Fire-Resistant Polymer	NP	50 (2.0)	50 (2.0)	28 (1916)	NP	55 (3764)	55 (3764)	NP	NP	Flame-retardant structure
ACEGrid GG300-II FR	woven	PET	Fire-Resistant Polymer	NP	25 (1.0)	20 (0.8)	100 (6844)	NP	300 (20531)	300 (20531)	NP	NP	Flame-retardant structure
ACEGrid GG200-I PE	woven	PET	PE	NP	19 (0.7)	26 (1.0)	100 (6844)	NP	200 (13687)	NP	NP	NP	B, W, S, E, SI

Carthage Mills | www.carthagemills.com | www.gxgeogrids.com

GX-300	woven	PET	PVC	NA	22 [.87]	25 [.98]	15.7 kN/m [1,080 lb/ft]	N.A.	47.3 kN/m [3,250 lb/ft]	N.A.	32.2 kN/m [2,211 lb/ft]	27.4 kN/m [1,879 lb/ft]	E, S, SI, W
GX-500	woven	PET	PVC	NA	22 [.87]	25 [.98]	17.4 kN/m [1,202 lb/ft]	N.A.	65.5 kN/m [4,500 lb/ft]	N.A.	44.6 kN/m [3,061 lb/ft]	37.9 kN/m [2,601 lb/ft]	E, S, SI, W
GX-800	woven	PET	PVC	NA	23 [.91]	23 [.91]	29.5 kN/m [2,023 lb/ft]	N.A.	106.6 kN/m [7,315 lb/ft]	N.A.	72.5 kN/m [4,976 lb/ft]	61.6 kN/m [4,228 lb/ft]	E, S, SI, W

Colbond Inc. | www.colbond-geosynthetics.com

Enkagrid Max 20	laser-welded	PP	NA	NA	44 (1.7)	41 (1.6)	15.1 (1031)	15.1 (1031)	24/8 (1644)	24/8 (1644)	NA	NA	B
Enkagrid Max 30	laser-welded	PP	NA	NA	44 (1.7)	40 (1.6)	21.3 (1460)	21.3 (1460)	32/8 (2192)	32/8 (2192)	NA	NA	B
Enkagrid PRO 40	laser-welded	PET	NA	NA	111 (4.4)	41 (1.6)	33 (2260)	NA	44/6 (3014)	NA	30.4 (2080.3)	26.8 (1836)	B, W, S, E
Enkagrid PRO 60	laser-welded	PET	NA	NA	111 (4.4)	37 (1.45)	51 (3495)	NA	70/6 (4795)	NA	48.3 (3309.5)	42.6 (2921)	B, W, S, E
Enkagrid PRO 90	laser-welded	PET	NA	NA	111 (4.4)	35 (1.4)	81 (5548)	NA	105/6 (7192)	NA	70.4 (4822.4)	60.9 (4175)	B, W, S, E
Enkagrid PRO 120	laser-welded	PET	NA	NA	111 (4.4)	34 (1.3)	87 (5959)	NA	127/6 (8699)	NA	87.6 (6004.4)	75.9 (5199)	B, W, S, E
Enkagrid PRO 180	laser-welded	PET	NA	NA	111 (4.4)	34 (1.3)	140 (9590)	NA	197/6 (13,498)	NA	135.9 (9313.9)	120 (8220.6)	B, W, S, E

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XD = Cross-machine direction
[3] Test per ASTM D 5262, for a minimum of 10,000 hours and extrapolate to a 75-year time period.

$$[4] \text{ LTDS} = \frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$$

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					MD	XD	MD	XD	MD	XD			
Huesker Inc. www.huesker.com													
Formit 20	knitted	PP	polymeric	150 (4.5)	15 (0.6)	15 (0.6)	11 (753)	16 (1096)	17/6 (1164)	24/6 (1644)	NA	NA	B, SI
Formit 30	knitted	PP	polymeric	220 (6.5)	15 (0.6)	15 (0.6)	20 (1370)	27 (1850)	27/6 (1850)	35/6 (2398)	NA	NA	B, SI
Formit 30/30	knitted	PP	polymeric	240 (7)	35 (1.35)	35 (1.35)	24 (1640)	24 (1640)	30/6 (2055)	30/6 (2055)	NA	NA	B, SI
Formit 40/40	knitted	PP	polymeric	375 (11)	35 (1.35)	35 (1.35)	32 (2190)	32 (2190)	40/6 (2740)	40/6 (2740)	NA	NA	B, SI
HaTelit C 40/17	knitted	PET (grid) PP (textile)	bituminous	360 (10.5)	40 (1.5)	40 (1.5)	NA	NA	50/10 (3425)	50/10 (3425)	NA	NA	A/O, PR
Fortrac 35	woven	PET	PVC	235 (7)	20 (0.8)	20 (0.8)	13 (890)	NA	35/8 (2400)	NA	22.3 (1527)	19.3 (1322)	W, E, S 4<pH<10
Fortrac 55	woven	PET	PVC	275 (8)	20 (0.8)	20 (0.8)	18 (1240)	NA	54/8 (3700)	NA	34.2 (2342)	29.6 (2027)	W, E, S 4<pH<10
Fortrac 80	knitted	PET	PVC	440 (13)	20 (0.8)	20 (0.8)	26 (1780)	NA	83/8 (5685)	NA	52.5 (3596)	45.5 (3117)	W, E, S 4<pH<10
Fortrac 110	knitted	PET	PVC	475 (14)	20 (0.8)	20 (0.8)	33 (2260)	NA	110/8 (7400)	NA	69.2 (4740)	60.3 (4130)	W, E, S 4<pH<10
Fortrac 150	knitted	PET	PVC	645 (19)	30 (1.2)	30 (1.2)	52 (3560)	NA	147.6/8 (10,100)	NA	93.3 (6392)	80.8 (5535)	W, E, S 4<pH<10
Fortrac 200	knitted	PET	PVC	715 (21)	30 (1.2)	30 (1.2)	69 (4725)	NA	197.3/8 (13,500)	NA	124.7 (8544)	108 (7398)	W, E, S 4<pH<10
Fortrac 35 MP	woven	PVA	PVC	240 (7)	20 (0.8)	30 (1.2)	34 (2330)	NA	35/4 (2400)	NA	21.4 (1472)	20.4 (1400)	W, E, S 2<pH<13
Fortrac 55 MP	woven	PVA	PVC	270 (8)	20 (0.8)	30 (1.2)	49 (3350)	NA	54/4 (3700)	NA	33.0 (2260)	31.5 (2160)	W, E, S 2<pH<13
Fortrac 80 MP	woven	PVA	PVC	375 (11)	20 (0.8)	30 (1.2)	72 (4930)	NA	80/4 (5480)	NA	49.0 (3360)	46.7 (3200)	W, E, S 2<pH<13
Fortrac 110 MP	woven	PVA	PVC	400 (12)	20 (0.8)	30 (1.2)	98 (6715)	NA	110/4 (7535)	NA	72.6 (4977)	62.9 (4309)	W, E, S 2<pH<13

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				Mass/Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Lückerhaus Technical Textiles Inc. www.synteen.de													
RAUGRID 11X3N	woven	PET	PVC	405 (14.2)	20 (0.8)	20 (0.8)	29.3 (2007)	NA	110 (7538)	NA	71.0 (4863)	58.2 (3989)	B, W, S, E
RAUGRID 13X3N	woven	PET	PVC	535 (18.8)	20 (0.8)	20 (0.8)	41.0 (2809)	NA	130 (8908)	NA	83.8 (5747)	68.8 (4714)	B, W, S, E
RAUGRID 15X3N	woven	PET	PVC	585 (20.6)	20 (0.8)	20 (0.8)	43.5 (2981)	NA	150 (10279)	NA	96.7 (6631)	80.9 (5544)	B, W, S, E
RAUGRID 3X3N	woven	PET	PVC	180 (6.3)	20 (0.8)	20 (0.8)	9.7 (664)	NA	30 (2055)	30 (2055)	19.3 (1325)	15.6 (1067)	B, W, S, E
RAUGRID 4X2N	woven	PET	PVC	180 (6.3)	20 (0.8)	20 (0.8)	11.4 (781)	NA	40 (2741)	NA	25.8 (1768)	20.8 (1423)	B, W, S, E
RAUGRID 5X2N	woven	PET	PVC	250 (8.8)	20 (0.8)	20 (0.8)	16.0 (1096)	NA	50 (3426)	NA	32.2 (2210)	26.0 (1779)	
RAUGRID 6X3N	woven	PET	PVC	300 (10.5)	20 (0.8)	20 (0.8)	17.9 (1226)	NA	60 (4111)	NA	38.7 (2652)	31.7 (2175)	B, W, S, E
RAUGRID 8X3N	woven	PET	PVC	365 (12.8)	20 (0.8)	20 (0.8)	23.5 (1610)	NA	80 (5482)	NA	51.6 (3536)	42.3 (2901)	B, W, S, E
STARGrid G+PF	woven grid + nonwoven fabric	fiberglass grid & nonwoven fabric composite	polymeric	350 (10.3)	30 (1.2)	30 (1.2)	NA	NA	50.0 (3740)	50.0 (3740)	NA	NA	A/O, PR
STARGrid G+PF 100	woven grid + nonwoven fabric	fiberglass grid & nonwoven fabric composite	polymeric	550 (16.0)	20 (0.8)	20 (0.8)	NA	NA	100.0 (6800)	100.0 (6800)	NA	NA	A/O, PR
STARGrid G-PS 100	woven grid + interlayered filling yarn	fiberglass	polymeric	470 (13.8)	30 (1.2)	30 (1.2)	NA	NA	100.0 (6800)	100.0 (6800)	NA	NA	A/O, PR

Maccaferri Inc. www.maccaferri-usa.com													
MacGrid EB2	extrusion	PP	NA	220 (6.5)	42 (1.65)	50 (1.96)	9.0 (616)	13.4 (920)	13.5 (925)	20.5 (1,400)	NP	NP	B, E
MacGrid EB3	extrusion	PP	NA	330 (9.7)	42 (1.65)	50 (1.96)	13.5 (925)	19.6 (1,340)	20 (1,370)	30.7 (2,100)	NP	NP	B, E
MacGrid WG3	woven	PET	polymer	NA	25 (1)	28 (1.1)	15 (1027)	NA	30 (2053)	NA	21 (1435.7)	16.3 (1114.7)	W, S, E, B
MacGrid WG5	woven	PET	polymer	NA	24 (0.9)	28 (1.1)	25 (1,711)	NA	50 (3,422)	NA	35 (2,393)	27.2 (1859.8)	W, S, E, B
MacGrid WG8	woven	PET	polymer	NA	23 (0.9)	28 (1.1)	40 (2,737)	NA	80 (5,475)	NA	55.9 (3,826)	43.5 (2,972.5)	W, S, E, B
MacGrid WG11	woven	PET	polymer	NA	21 (0.8)	28 (1.1)	55 (3,764)	NA	110 (7,528)	NA	76.9 (5,263)	59.8 (4,093)	W, S, E, B
MacGrid WG15	woven	PET	polymer	NA	21 (0.8)	28 (1.1)	75 (5,133)	NA	150 (10,266)	NA	104.9 (7,179)	81.4 (5,573.5)	W, S, E, B

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NAUE GmbH & Co. KG | www.naue.com | www.bentofix.com | www.secugrid.com

Secugrid 30/30 Q6	vibratory welded bars	PET	NA	320 (9.4)	34 (1.3)	34 (1.3)	24 (1644)	24 (1644)	30 (2055)	30 (2055)	21.4 (1467)	20.2 (1385)	B, W, S, E, SI
Secugrid 40/40 Q6	vibratory welded bars	PET	NA	360 (10.6)	33 (1.3)	33 (1.3)	32 (2192)	32 (2192)	40 (2740)	40 (2740)	28.6 (1957)	27.0 (1846)	B, W, S, E, SI
Secugrid 60/20 R6	vibratory welded bars	PET	NA	420 (12.4)	73 (2.9)	31 (1.2)	36 (2465)	NA	60 (4110)	NA	42.9 (2935)	42.0 (2878)	B, W, S, E, SI
Secugrid 80/20 R6	vibratory welded bars	PET	NA	380 (11.1)	73 (2.9)	30 (1.18)	48 (3288)	NA	80 (5480)	NA	57.1 (3914)	56.6 (3224)	B, W, S, E, SI
Secugrid 120/40 R6	vibratory welded bars	PET	NA	580 (17.1)	71 (2.8)	28 (1.1)	72 (4932)	NA	120 (8220)	NA	85.7 (5871)	85.7 (5871)	B, W, S, E, SI
Secugrid 200/40 R6	vibratory welded bars	PET	NA	810 (23.9)	71(2.8)	25 (1.0)	120 (8220)	NA	200 (13700)	NA	143 (9785)	143 (9785)	B, W, S, E, SI
Secugrid 20/20 Q1	vibratory welded bars	PP	NA	155 (4.6)	33 (1.3)	32 (1.2)	15 (1029)	15 (1029)	24 (1640)	24 (1640)	NA	NA	B, W, S, E, SI
Secugrid 30/30 Q1	vibratory welded bars	PP	NA	200 (6.0)	32 (1.2)	32 (1.2)	21.5 (1475)	21.5 (1475)	30 (2055)	30 (2055)	NA	NA	B, W, S, E, SI
Secugrid 40/40 Q1	vibratory welded bars	PP	NA	240 (7.0)	32 (1.2)	32 (1.2)	24 (1640)	24 (1640)	40 (2740)	40 (2740)	NA	NA	B, W, S, E, SI
Combigrd 30/30 Q1 151 GRK 3	vibratory welded bars w. nonwoven	PP	NA	350 (10.3)	32 (1.2)	32 (1.2)	21.5 (1475)	21.5 (1475)	30 (2055)	30 (2055)	NA	NA	B, W, S, E, SI

Saint-Gobain ADFORS | www.sg-adfors.com

CompoGrid CG50	Knitted (FG) w/ Nonwoven (PP)	FG/PP	EP	294 (9.5)	N/A	N/A	N/A	N/A	50/3% (3360)	50/3% (3360)	N/A	N/P	A/O, PR
CompoGrid CG100	Knitted (FG) w/ Nonwoven (PP)	FG/PP	EP	464 (15)	N/A	N/A	N/A	N/A	100/3% (6720)	100/3% (6720)	N/A	N/P	A/O, PR
CompoGrid CG200	Knitted (FG) w/ Nonwoven (PP)	FG/PP	EP	619 (20)	N/A	N/A	N/A	N/A	100/3% (6720)	200/3% (13,440)	N/A	N/P	A/O, PR
GlasGrid 8550	Knitted	FG	EP	185(5.5)	25(1.0)	25(1.0)	N/A	N/A	50/3% (3360)	50/3% (3360)	N/A	N/P	A/O, PR
GlasGrid 8501	Knitted	FG	EP	370(11)	12.5(0.5)	12.5(0.5)	N/A	N/A	100/3% (6720)	100/3% (6720)	N/A	N/P	A/O, PR
GlasGrid 8511	Knitted	FG	EP	370(11)	25(1.0)	25(1.0)	N/A	N/A	100/3% (6720)	100/3% (6720)	N/A	N/P	A/O, PR
GlasGrid 8502	Knitted	FG	EP	560(16)	12.5(0.5)	12.5(0.5)	N/A	N/A	100/3% (6720)	200/3% (13,440)	N/A	N/P	A/O, PR
GlasGrid 8512	Knitted	FG	EP	560(16)	25(1.0)	19(0.75)	N/A	N/A	100/3% (6720)	200/3% (13,440)	N/A	N/P	A/O, PR

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Product Name	Manufacturing Process	Polymer Type [1]	Coating Type [1]	Dimensional Properties [2]			Tensile Strength/[Elongation] ASTM D 6637 [2] kN/m (lb/ft)/%				Creep Limited Strength-MD [3] ASTM D 5262 kN/m (lb/ft)	LTDS GRI GG4-MD [4] kN/m (lb/ft) (in sand)	Manufacturer's Suggested Applications [5]
				Mass/Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Samyang Corp. www.samyang.com													
TRIGRID EX 040	co-extrusion and welded	PET	Polyolefine sheath	350(10.3)	34(1.3)	34(1.3)	24(1644)	NA	40(2740)	NA	26.0(1779)	23.3(1596)	W,E,S
TRIGRID EX 060	co-extrusion and welded	PET	Polyolefine sheath	410(12.1)	33(1.3)	34(1.3)	36(2466)	NA	60(4110)	NA	39.0(2669)	34.9(2391)	W,E,S
TRIGRID EX 080	co-extrusion and welded	PET	Polyolefine sheath	460(13.6)	32(1.3)	34(1.3)	48(3288)	NA	80(5480)	NA	51.9(3558)	46.5(3185)	W,E,S
TRIGRID EX 100	co-extrusion and welded	PET	Polyolefine sheath	560(16.5)	31(1.2)	34(1.3)	60(4110)	NA	100(6850)	NA	64.9(4448)	58.1(3980)	W,E,S
TRIGRID EX 150	co-extrusion and welded	PET	Polyolefine sheath	650(19.2)	30(1.2)	34(1.3)	90(6165)	NA	150(10275)	NA	97.4(6672)	87.2(5973)	W,E,S
TRIGRID EX 200	co-extrusion and welded	PET	Polyolefine sheath	770(22.7)	29(1.1)	33(1.3)	130(8905)	NA	200(13700)	NA	129.8(8891)	116.3(7967)	W,E,S
TRIGRID EX 20/20	co-extrusion and welded	PET	Polyolefine sheath	290(8.6)	35(1.4)	35(1.4)	14(959)	14(959)	20(1370)	20(1370)	NA	NA	B, SI
TRIGRID EX 30/30	co-extrusion and welded	PET	Polyolefine sheath	320(9.4)	34(1.3)	34(1.3)	21(1439)	21(1439)	30(2055)	30(2055)	NA	NA	B, SI
TRIGRID EX 40/40	co-extrusion and welded	PET	Polyolefine sheath	410(12.1)	34(1.3)	34(1.3)	28(1918)	28(1918)	40(2740)	40(2740)	NA	NA	B, SI
TRIGRID EX 60/60	co-extrusion and welded	PET	Polyolefine sheath	490(14.5)	33(1.3)	33(1.3)	38(2603)	38(2603)	60(4110)	60(4110)	NA	NA	B, SI

Strata Systems Inc. www.geogrid.com													
Strata Microgrid	precision knitted	PET	polymeric	NP	6.35 (0.25)	2.54 (0.10)	7.3 (500)	4.4 (300)	29.2 (2000)	29.2 (2000)	16.8 (1149)	12.7 (871)	E, W, S, SI
Stratagrid SG150	precision knitted	PET	polymeric	NP	25.4 (1.0)	24.1 (0.95)	5.8 (400)	4.4 (300)	27.4 (1875)	27.4 (1875)	16.6 (1136)	13.7 (939)	E, W, S, SI
Stratagrid SG200	precision knitted	PET	polymeric	NP	18.3 (0.72)	16.5 (0.65)	NA	NA	52.5 (3600)	NA	33.9 (2323)	28.0 (1919)	E, W, S
Stratagrid SG350	precision knitted	PET	polymeric	NP	21.6 (0.85)	14.0 (0.55)	NA	NA	73.0 (5000)	NA	47.1 (3226)	38.9 (2666)	E, W, S
Stratagrid SG500	precision knitted	PET	polymeric	NP	62.2 (2.45)	25.4 (1.0)	NA	NA	93.4 (6400)	NA	60.3 (4129)	49.8 (3412)	E, W, S
Stratagrid SG550	precision knitted	PET	polymeric	NP	21.6 (0.85)	24.1 (0.95)	NA	NA	118.9 (8150)	NA	76.7 (5258)	63.4 (4346)	E, W, S
Stratagrid SG600	precision knitted	PET	polymeric	NP	62.2 (2.45)	24.1 (0.95)	NA	NA	132.8 (9100)	NA	85.7 (5871)	70.8 (4852)	E, W, S
Stratagrid SG700	precision knitted	PET	polymeric	NP	62.2 (2.45)	24.1 (0.95)	NA	NA	172.2 (11800)	NA	111.1 (7613)	91.8 (6292)	E, W, S

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- [2] MD = Machine direction
XD = Cross-machine direction
- [3] Test per ASTM D 5262, for a minimum of 10,000 hours and extrapolate to a 75-year time period.

[4]
$$LTDS = \frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$$

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.

- [5] A/O = Asphalt overlay
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Product Name	Manufacturing Process	Polymer Type [1]	Coating Type [1]	Dimensional Properties [2]			Tensile Strength/[Elongation] ASTM D 6637 [2] kN/m (lb/ft)/%				Creep Limited Strength-MD [3] ASTM D 5262 kN/m (lb/ft)	LTDS GRI GG4-MD [4] kN/m (lb/ft) (in sand)	Manufacturer's Suggested Applications [5]
				Mass/Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Supertex Inc. www.supertex-inc.com													
EKG 09	Warp Knitting	PET	PVC	56 (1.64)	NP	NP	NP	NP	20 (1370)	NP	12.7 (867)	10.5 (720)	W, E, S, SI
EKG 28	Warp Knitting	PET	PVC	144 (4.24)	NP	NP	NP	NP	57 (3959)	NP	36.6 (2505)	30.8 (2106)	W, E, S, SI
EKG 64	Warp Knitting	PET	PVC	295 (8.70)	NP	NP	NP	NP	128 (8768)	NP	81.0 (5549)	68.9 (4720)	W, E, S, SI
EKG 76	Warp Knitting	PET	PVC	315 (9.30)	NP	NP	NP	NP	150 (10275)	NP	94.9 (6503)	81.2 (5564)	W, E, S, SI
EKG 130	Warp Knitting	PET	PVC	530 (15.63)	NP	NP	NP	NP	250 (17125)	NP	137.0 (9384)	158.2 (10838)	W, E, S, SI

SYNTEC www.synteccorp.com													
SBX 11 (Type 1)	integrally formed	PP	NA	NA	25 (1.0)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1300)	NP	NP	B, SI
SBX 12 (Type 2)	integrally formed	PP	NA	NA	25 (1.0)	35 (1.3)	11.8 (810)	19.6 (1340)	19.2 (1310)	28.8 (1970)	NP	NP	B, SI
SBX 13	integrally formed	PP	NA	NA	46 (1.8)	64 (2.5)	10.5 (720)	17.5 (1200)	16.0 (1100)	28.0 (1920)	NP	NP	B, SI
SBX 15	integrally formed	PP	NA	NA	25 (1.0)	30.5 (1.2)	17.5 (1200)	20.0 (1370)	27.0 (1850)	30.0 (2050)	NP	NP	B, SI
SBX 41	integrally formed	PP	NA	NA	33 (1.3)	33 (1.3)	8.0 (550)	10.5 (720)	12.8 (880)	13.5 (920)	NP	NP	B, SI
SBX 42	integrally formed	PP	NA	NA	33 (1.3)	33 (1.3)	10.5 (720)	14.6 (1000)	20.5 (1400)	23.5 (1610)	NP	NP	B, SI
UX10-S / UX10-W	integrally formed	HDPE	NA	NA	NA	NA	23.0 (1750)	NA	46.0 (3150)	NA	17.6 (1207)	16.8 (1150)	W, E, S
UX11-S / UX11-W	integrally formed	HDPE	NA	NA	NA	NA	27.0 (1850)	NA	58.0 (3970)	NA	22.3 (1522)	21.2 (1450)	W, E, S
UX14-S / UX14-W	integrally formed	HDPE	NA	NA	NA	NA	31.0 (2130)	NA	70.0 (4800)	NA	26.9 (1848)	25.6 (1760)	W, E, S
UX15-S / UX15-W	integrally formed	HDPE	NA	NA	NA	NA	52.0 (3560)	NA	114 (7810)	NA	43.9 (3003)	41.8 (2860)	W, E, S
UX16-S / UX16-W	integrally formed	HDPE	NA	NA	NA	NA	58.0 (3980)	NA	144 (9870)	NA	55.3 (3800)	52.7 (3620)	W, E, S
UX17-S / UX17-W	integrally formed	HDPE	NA	NA	NA	NA	75.0 (5140)	NA	175 (11990)	NA	67.3 (4610)	64.1 (4390)	W, E, S
UX18-S	integrally formed	HDPE	NA	NA	NA	NA	95.0 (6510)	NA	210 (14390)	NA	77.8 (5534)	74.1 (5080)	W, E, S
UX8-LH	integrally formed	HDPE	NA	NA	NA	NA	NA	14.0 (960)	NA	38.0 (2600)	12.8 (877)	12.2 (835)	W, S

Synten Technical Fabrics www.synten.com													
SF 11	woven	PET	PVC	NA	25 (1.0)	25 (1.0)	15.2 (1042)	11.5 (792)	34.9 (2388)	56.5 (3870)	NA	NA	SI, B
SF 110	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	150.1 (10,250)	NA	95.2 (6500)	82.5 (5623)	S, W, B, E, PR
SF 12	woven	PET	PVC	NA	25 (1.0)	25 (1.0)	15.2 (1042)	19.9 (1367)	34.9 (2388)	76.8 (5368)	NA	NA	SI, B
SF 20	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	30.0 (2050)	NA	19.5 (1331)	16.1 (1099)	S, W, B, E, PR
SF 35	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	50.2 (3435)	NA	32.6 (2230)	27.4 (1878)	S, W, B, E, PR
SF 350	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	401.3 (27,390)	NA	255.6 (17445)	221.3 (15104)	S, W, B, E, PR
SF 55	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	68.4 (4670)	NA	44.4 (3032)	38.4 (2625)	S, W, B, E, PR
SF 80	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	108.4 (7400)	NA	69.9 (4774)	60.5 (4133)	S, W, B, E, PR
SF 90	woven	PET	PVC	NA	20 (0.75)	20 (0.75)	NA	NA	124.5 (8500)	NA	80.3 (5483)	69.5 (4747)	S, W, B, E, PR

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				Mass/Unit Area ASTM D 5261 g/m2 (oz/yd2)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
TechFab India www.techfabindia.com													
Techgrid U-40	Knitted	Polyester	PVC		30 (1.18)	25 (1.0)	NA	NA	40 (2741)	20 (1371)	26 (1782)	21 (1439)	W,S,E
Techgrid U-80	Knitted	Polyester	PVC		30 (1.18)	25 (1.0)	NA	NA	80 (5482)	30 (2056)	52 (3564)	43 (2947)	W,S,E
Techgrid U-200	Knitted	Polyester	PVC		30 (1.18)	22 (0.87)	NA	NA	200 (13705)	30 (2056)	129 (8841)	107 (7333)	W,S,E
Techgrid B-11	Knitted	Polyester	PVC		25 (1.0)	25 (1.0)	13.5 (925)	13.5 (925)	35 (2400)	60 (4114)	NA	NA	B,SI
Techgrid B-90	Knitted	Polyester	PVC		23 (0.92)	23 (0.92)	30 (1712)	22 (1438)	90 (6170)	90 (6171)	NA	NA	B,SI
Geocomposite TGC-60	Knitted	PET / PP NW	NA		NA	NA	25 (1712)	25 (1712)	60 (4114)	60 (4114)	NA	NA	SI
TechGlass - 100	Knitted	glass fiber	Bitumen		12.5 (0.5)	12.5 (0.5)	NA	NA	100 (6853)	100 (6853)	NA	NA	Asphalt reinforcement
Geocomposite AIC-50	Knitted	Glass fiber/ PET NW	NA		15 (0.6)	15 (0.6)	NA	NA	50 (3426)	50 (3426)	NA	NA	Asphalt reinforcement

TenCate Geosynthetics www.tencate.com													
Mirafi BXG10	woven	PET	PVC	NP	25.4 (1.0)	25.4 (1.0)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1300)	NP	NP	
Mirafi BXG 11	woven	PET	PVC	NP	25.4 (1.0)	25.4 (1.0)	14.6 (1000)	14.6 (1000)	36.5 (2500)	36.5 (2500)	NP	NP	B, SI
Mirafi BXG 12	woven	PET	PVC	NP	25.4 (1.0)	25.4 (1.0)	14.6 (1000)	19.7 (1350)	36.5 (2500)	65.7 (4500)	NP	NP	B, SI
Mirafi Miramesh	woven	PP	N/A	197 (5.8)	2 (0.08)	2 (0.08)	NA	NA	21.0 (1440)	25.3 (1733)	6.9 (471) MD 8.3 (566) CD	5.9 (407) MD 7.2 (490) CD	W
Miragrid 2XT	woven	PET	PVC	NP	22.2 (0.875)	25.4 (1.0)	NA	NA	29.2 (2000)	29.2 (2000)	18.5 (1266)	16.0 (1096)	W, S, E
Miragrid 3XT	woven	PET	PVC	NP	25.4 (1.0)	25.4 (1.0)	15.4 (1056)	NA	51.1 (3500)	NA	32.3 (2215)	28.0 (1918)	W, S, E
Miragrid 5XT	woven	PET	PVC	NP	30.5 (1.2)	25.4 (1.0)	25.4 (1740)	NA	68.6 (4700)	NA	43.4 (2975)	37.6 (2575)	W, S, E
Miragrid 7XT	woven	PET	PVC	NP	33.0 (1.3)	22.9 (0.9)	31.5 (2160)	NA	86.1 (5900)	NA	54.5 (3734)	47.2 (3233)	W, S, E
Miragrid 8XT	woven	PET	PVC	NP	33.0 (1.3)	22.9 (0.9)	36.8 (2520)	NA	108.0 (7400)	NA	68.3 (4684)	59.2 (4055)	W, S, E
Miragrid 10XT	woven	PET	PVC	NP	33.0 (1.3)	20.8 (0.8)	45.5 (3120)	NA	138.6 (9500)	NA	87.7 (6013)	76.0 (5206)	W, S, E
Miragrid 20XT	woven	PET	PVC	NP	38.1 (1.5)	15.2 (0.6)	77.9 (5340)	NA	200.0 (13705)	NA	126.6 (8674)	109.6 (7510)	W, S, E
Miragrid 22XT	woven	PET	PVC	NP	35.6 (1.4)	15.2 (0.6)	97.8 (6700)	NA	300.0 (20559)	NA	189.8 (13012)	164.4 (11266)	W, S, E
Miragrid 24XT	woven	PET	PVC	NP	35.6 (1.4)	12.7 (0.5)	102.1 (7000)	NA	400.0 (27415)	NA	253.2 (17351)	219.2 (15023)	W, S, E

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				Mass/Unit Area ASTM D 5261 g/m ² (oz/yd ²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
BX Type 1	integrally formed	PP	NA	NA	25 [A] (1.0) [A]	33 [A] (1.3) [A]	8.5 (580)	13.4 (920)	NA	NA	NA	NA	SI, B
BX Type 2	integrally formed	PP	NA	NA	25 [A] (1.0) [A]	33 [A] (1.3) [A]	11.8 (810)	19.6 (1340)	NA	NA	NA	NA	SI, B
BX1300	integrally formed	PP	NA	NA	46 [A] (1.8) [A]	64 [A] (2.5) [A]	10.5 (720)	17.5 (1200)	NA	NA	NA	NA	SI, B
BX1500	integrally formed	PP	NA	NA	25 [A] (1.0) [A]	31 [A] (1.2) [A]	17.5 (1200)	20.0 (1370)	NA	NA	NA	NA	SI, B
TX140	integrally formed	PP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
TX160	integrally formed	PP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
TX5	integrally formed	PP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
TX7	integrally formed	PP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
CompoGrid CG 50	knitted (FG) w nonwoven (PP)	FG PP	EP	305 (9)	NA	NA	NA	NA	50 @ 3% (3360)	50 @ 3% (3360)	NA	NP	A/O, PR
CompoGrid CG 100	knitted (FG) w nonwoven (PP)	FG PP	EP	475 (14)	NA	NA	NA	NA	100 @ 3% (6720)	100 @ 3% (6720)	NA	NP	A/O, PR
GlasGrid 8501/8501TF	knitted	FG	EP	370 (11)	12.5 (0.5)	12.5 (0.5)	NA	NA	100 @ 3% (6720)	100 @ 3% (6720)	NA	NP	A/O, PR
GlasGrid 8502	knitted	FG	EP	560 (16)	12.5 (0.5)	12.5 (0.5)	NA	NA	100 @ 3% (6720)	200 @ 3% (13,440)	NA	NP	A/O, PR
GlasGrid 8511/8511TF	knitted	FG	EP	370 (11)	25 (1.0)	25 (1.0)	NA	NA	100 @ 3% (6720)	100 @ 3% (6720)	NA	NP	A/O, PR
GlasGrid 8512	knitted	FG	EP	560 (16)	19 (0.75)	25 (1.0)	NA	NA	100 @ 3% (6720)	200 @ 3% (13,440)	NA	NP	A/O, PR
Glasgrid 8550	knitted	FG	EP	185 (5.5)	25 (1.0)	25 (1.0)	NA	NA	50 @ 3% (3360)	50 @ 3% (3360)	NA	NP	A/O, PR
LH800	integrally formed	HDPE	NA	NA	NA	104 (4.1)	NA	14 (960)	NA	38 (2600)	12.8 (880)*	12.5 (850)*	W, E, S

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

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				Mass/Unit Area ASTM D 5261 g/m2 (oz/yd2)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
UX1100HS/MSE**	integrally formed	HDPE	NA	NA	430 (17.0)	NA	27 (1850)	NA	58 (3970)	NA	22.3 (1530)*	21.2 (1450)*	W, E, S
UX1400HS/MSE**	integrally formed	HDPE	NA	NA	460 (18.0)	NA	31 (2130)	NA	70 (4800)	NA	26.9 (1850)*	25.6 (1760)*	W, E, S
UX1500HS/MSE**	integrally formed	HDPE	NA	NA	460 (18.0)	NA	52 (3560)	NA	114 (7810)	NA	43.8 (3000)*	41.8 (2860)*	W, E, S
UX1600HS/MSE**	integrally formed	HDPE	NA	NA	460 (18.0)	NA	58 (3980)	NA	144 (9870)	NA	55.4 (3800)*	52.7 (3620)*	W, E, S
UX1700HS/MSE**	integrally formed	HDPE	NA	NA	460 (18.0)	NA	75 (5140)	NA	175 (11,990)	NA	67.3 (4610)*	64.1 (4390)*	W, E, S
UX1800HS	integrally formed	HDPE	NA	NA	370 (14.5)	NA	95 (6510)	NA	210 (14,390)	NA	77.8 (5330)*	74.1 (5080)*	W, E, S

* Creep rupture extrapolated to a 120-year time period per ASTM D 5262
 ** UXxx00HS geogrids use for non-connected system only

TerraFix Geosynthetics Inc./TerraFix Environmental Technology Inc. www.terrafixgeo.com													
BX1500	Extruded and Integrally Formed	PP	NA	NA	42 (1.65)	42 (1.65)	11.5 (788)	12.5 (856)	16.0 (1,096)	16.0 (1,096)	NA	NA	B,E,S,SI
BX2000	Extruded and Integrally Formed	PP	NA	NA	42 (1.65)	40 (1.57)	15.4 (1,055)	15.4 (1,055)	20.0 (1,370)	20.0 (1,370)	NA	NA	B,E,S,SI
BX2500	Extruded and Integrally Formed	PP	NA	NA	44 (1.73)	40 (1.57)	18.0 (1,233)	20.0 (1,370)	25.0 (1,713)	25.0 (1,713)	NA	NA	B,E,S,SI
BX3000	Extruded and Integrally Formed	PP	NA	NA	40 (1.57)	36 (1.42)	21.6 (1,507)	22.0 (1,507)	30.0 (2,056)	30.0 (2,056)	NA	NA	B,E,S,SI

- [1] PET = Polyester, HDPE = High density polyethylene
 PVC = Polyvinyl chloride
 EP = Elastomeric Polymer
 PVA = Polyvinyl alcohol
 FG = Fiberglass
 PP = Polypropylene
- [2] MD = Machine direction
 XD = Cross-machine direction
- [3] Test per ASTM D 5262, for a minimum of 10,000 hours and extrapolate to a 75-year time period.

[4]
$$LTDS = \frac{T_{ult}}{RF_{CR} \times RF_{ID} \times RF_D}$$

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.

- [5] A/O = Asphalt overlay
 B = Base reinforcement
 E = Embankments
 PR = Pavement reinforcement
 S = Slopes
 SI = Subgrade improvement
 W = Walls
- NP = Not provided by manufacturer
 NA = Not applicable, per manufacturer
 * = Not for sale in U.S.

Companies were requested to provide minimum average roll values (MARV). All claims are the responsibility of the manufacturer.