Photograph courtesy NAUE

GEOGRIDS
PRODUCT DATA

FOR MORE INFORMATION

Geosynthetics magazine has provided information on the geogrid 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 geogrids 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 2021 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 2021 Specifier's Guide* is intended as a guide, and *Geosynthetics* magazine and IFAI encourage readers to contact the companies listed for further information.

Manufacturers design geogrids for reinforcement and, characteristically, these products 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 engineers use geogrids primarily for reinforcement, geogrids are also used for asphalt overlay and waterproofing, and for separation and stabilization. In addition, geogrids are used as gabions and sheet anchors, inserted between geotextiles and geomembranes, and 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/m² (oz/yd²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
ACE Geosynthetics Inc. | www.geoace.com													
ACEGrid GG1000-I	woven	PET	PVC	NP			250 (17109)	NP	1000 (68440)	100 (6845)	709 (48522)	689 (47153)	W, S, E
ACEGrid GG400-II	woven	PET	PVC	NP			120 (8215)	NP	400 (27375)	400 (27375)	284 (19436)	275 (18820)	W, S, E
ACEGrid GG200-II FR	woven	PET	Flame-retardant polymer	NP	30 (1.2)	30 (1.2)	NP	NP	200 (13687)	200 (13687)	NA	NA	W, S, E (Flame-retardant)
AFITEX-Texel Geosynthetics Inc. | www.draintube.net													
NOTEX PVA C 400-30	Warp-Knitting	PVA	Polymeric	374 (11)	25 (1)	25 (1)	90 (6167)	10 (685)	200 (13704) /10	30 (2056) /10	NP	NP	B, E, S, SI
NOTEX C 1000-30	Warp-Knitting	PET	Polymeric	1638 (48)	25 (1)	25 (1)	NP	10 (685)	1000 (68522) /10	30 (2056) /10	NP	NP	B, E, S, SI
NOTEX GLASS C 100-100/40 AN	Warp-Knitting	FG	Polymeric	414 (12)	40 (1.6)	40 (1.6)	NA	NA	100 (6852) /3	100 (6852) /3	NA	NA	A/O, PR
BOSTD America | www.BOSTD-America.com													
RX1100	Integrally Formed	PP	NA	NA	25 (1.0)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1,300)	NA	NA	SI, B
RX1200	Integrally Formed	PP	NA	NA	25 (1.0)	33 (1.3)	11.8 (810)	19.6 (1,340)	19.2 (1,310)	28.8 (1,970)	NA	NA	SI, B
RX1300	Integrally Formed	PP	NA	NA	46 (1.8)	64 (2.5)	10.5 (720)	17.5 (1,200)	16.0 (1,100)	28.0 (1,920)	NA	NA	SI, B
SX4100	Integrally Formed	PP	NA	NA	33 (1.3)	33 (1.3)	8.0 (550)	10.5 (720)	12.8 (880)	13.5 (920)	NA	NA	SI, B
SX1515	Integrally Formed	PP	NA	NA	40 (1.6)	40 (1.6)	10.5 (719)	10.5 (719)	15.0 (1,027)	15.0 (1,027)	NA	NA	SI, B
SX2020	Integrally Formed	PP	NA	NA	40 (1.6)	40 (1.6)	14.4 (959)	14.4 (959)	20.0 (1,370)	20.0 (1,370)	NA	NA	SI, B
SX2525	Integrally Formed	PP	NA	NA	40 (1.6)	40 (1.6)	17.0 (1,164)	17.0 (1,164)	25.0 (1,713)	25.0 (1,713)	NA	NA	SI, B
SX3030	Integrally Formed	PP	NA	NA	40 (1.6)	40 (1.6)	21.0 (1,439)	21.0 (1,439)	30.0 (2,055)	30.0 (2,055)	NA	NA	SI, B
SX2020L	Integrally Formed	PP	NA	NA	66 (2.6)	66 (2.6)	14.4 (959)	14.4 (959)	20.0 (1,370)	20.0 (1,370)	NA	NA	SI, B
SX3030L	Integrally Formed	PP	NA	NA	66 (2.6)	66 (2.6)	21.0 (1,439)	21.0 (1,439)	30.0 (2,055)	30.0 (2,055)	NA	NA	SI, B
Carthage Mills | www.gxgeogrids.com													
GX-300	Woven	PET	PVC	NA	22 (0.87)	25 (0.98)	15.7 (1,080)	N.A.	47.3 (3,250)	NA	32.2 (2,211)	27.4 (1,879)	E, S, SI, W
GX-500	Woven	PET	PVC	NA	22 (0.87)	25 (0.98)	17.4 (1,202)	N.A.	65.5 (4,500)	NA	44.6 (3,061)	37.9 (2,601)	E, S, SI, W
GX-800	Woven	PET	PVC	NA	23 (0.91)	23 (0.91)	29.5 (2,023)	N.A.	106.6 (7,315)	NA	72.5 (4,976)	61.6 (4,228)	E, S, SI, W

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

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RF_{CR} = Reduction factor for creep
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RF_{D} = Reduction factor for durability

NOTE: this equation does not include other reduction factors that 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
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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			
Geosynthetic Solutions | www.geosyntheticsolutions.com													
3D-LT Triplanar Grid	Integrally formed	PP	N/A	N/A	33 (1.30)	33 (1.30)	N/A	N/A	N/A	N/A	N/A	N/A	SI, B
3D-T Triplanar Grid	Integrally formed	PP	N/A	N/A	32 (1.26)	32 (1.26)	N/A	N/A	N/A	N/A	N/A	N/A	SI, B
3D-HT Triplanar Grid	Integrally formed	PP	N/A	N/A	32 (1.26)	32 (1.26)	N/A	N/A	N/A	N/A	N/A	N/A	SI, B
3D-XL Triplanar Grid	Integrally formed	PP	N/A	N/A	60 (2.40)	60 (2.40)	N/A	N/A	N/A	N/A	N/A	N/A	SI, B
MG 270 Mining Grid	Integrally formed	PP	Flame-retardant polymer	N/A	58 (2.30)	60 (2.40)	N/A	N/A	21.9 (1,500)	21.9 (1,500)	N/A	N/A	SI, B, W, E, S
Hanes Geo Components | www.hanesgeo.com													
TerraGrid RX1100	Integrally formed	PP	NA	NA	25✧(1.0✧)	33✧(1.3✧)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1300)	NA	NA	B, SI
TerraGrid RX1200	Integrally formed	PP	NA	NA	25✧(1.0✧)	33✧(1.3✧)	11.8 (810)	19.6 (1340)	19.2 (1310)	28.8 (1970)	NA	NA	B, SI
TerraGrid SX2020	Integrally formed	PP	NA	NA	35✧(1.4✧)	35✧(1.4✧)	13 (890)	13 (890)	20 (1370)	20 (1370)	NA	NA	B, SI
TerraGrid U-200	Precision knitted	PET	Polymeric	NA	18.3 (0.72)	16.5 (0.65)	20.5 (1400)	NA	52.5 (3600)	NA	33.9 (2323)	28.0 (1919)	E, W, S
TerraGrid U-700	Precision knitted	PET	Polymeric	NA	62.2 (2.45)	24.1 (0.95)	42.9 (2937)	NA	172.2 (11800)	NA	111.1 (7613)	91.8 (6292)	E, W, S
✧ nominal													
HUESKER Inc. | www.huesker.com													
Basetrac® Grid PP 20	Knitted	PP	Polymeric	190 (5.6)	25 (1)	25 (1)	18 (1233)	18 (1233)	20/7 (1370)	20/7 (1370)	NA	NA	B, SI
Basetrac® Grid PP 30	Knitted	PP	polymeric	220 (6.5)	25 (1)	25 (1)	24 (1640)	24 (1640)	30/6 (2055)	30/6 (2055)	NA	NA	B, SI
HaTelit® C 40/17	Knitted	PET (grid) PP (textile)	Bituminous	270 (10.5)	40 (1.5)	40 (1.5)	NA	NA	50/10 (3425)	50/10 (3425)	NA	NA	A/O,PR
Fortrac® 35	Knitted	PET	Polymeric	185 (5.4)	25 (1)	25 (1)	17 (1165)	NA	35/10 (2400)	NA	22.7 (1558)	18.8 (1288)	W, E, S 4<pH<10
Fortrac® 55	knitted	PET	Polymeric	240 (7)	25 (1)	25 (1)	27 (1850)	NA	55/10 (3767)	NA	35.7 (2446)	29.5 (2022)	W, E, S 4<pH<10
Fortrac® 80	Knitted	PET	Polymeric	320 (9.4)	25 (1)	25 (1)	40 (2740)	NA	80/10 (5480)	NA	52 (3558)	43 (2941)	W, E, S 4<pH<10
Fortrac® 110	Knitted	PET	Polymeric	350 (10)	25 (1)	25 (1)	52 (3562)	NA	110/10 (7433)	NA	71.4 (4891)	59 (4043)	W, E, S 4<pH<10
Fortrac® 150	Knitted	PET	Polymeric	440 (13)	25 (1)	25 (1)	72 (4932)	NA	150/10 (10,275)	NA	97.4 (6672)	80.4 (5514)	W, E, S 4<pH<10
Fortrac® 200	Knitted	PET	Polymeric	530 (15.6)	25 (1)	25 (1)	90 (6165)	NA	200/10 (13,700)	NA	129.9 (8896)	107.3 (7352)	W, E, S 4<pH<10

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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			
Industrial Fabrics Inc. | www.ind-fab.com													
BaseLok GeoGrid BX1100	Integrally Formed	PP	NA	NP	25 (1)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19 (1300)	NA	NA	SI, B
BaseLok GeoGrid BX1200	Integrally Formed	PP	NA	NP	25 (1)	33 (1.3)	11.8 (810)	19.6 (1340)	19.2 (1310)	28.8 (1970)	NA	NA	SI, B
BaseLok GeoGrid BX2020	Integrally Formed	PP	NA	NP	33 (1.3)	33 (1.3)	13 (890)	13 (890)	20 (1370)	20 (1370)	NA	NA	SI, B
BaseLok GeoGrid BX3030	Integrally Formed	PP	NA	NP	33 (1.3)	33 (1.3)	21 (1440)	21 (1440)	30 (2055)	30 (2055)	NA	NA	SI, B
BaseLok GeoGrid BX3030L	Integrally Formed	PP	NA	NP	57 (2.2)	57 (2.2)	21 (1440)	21 (1440)	30 (2055)	30 (2055)	NA	NA	SI, B
BaseLok FabGrid FG1100	Integrally Formed and Bonded	PP	NA	NP	25 (1)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19 (1300)	NA	NA	SI, B
BaseLok FabGrid FG1200	Integrally Formed and Bonded	PP	NA	NP	25 (1)	33 (1.3)	11.8 (810)	19.6 (1340)	19.2 (1310)	28.8 (1970)	NA	NA	SI, B
BaseLok FabGrid FG2020	Integrally Formed and Bonded	PP	NA	NP	33 (1.3)	33 (1.3)	13 (890)	13 (890)	20 (1370)	20 (1370)	NA	NA	SI, B
BaseLok FabGrid FG3030	Integrally Formed and Bonded	PP	NA	NP	33 (1.3)	33 (1.3)	21 (1440)	21 (1440)	30 (2055)	30 (2055)	NA	NA	SI, B
BaseLok FabGrid FG3030L	Integrally Formed and Bonded	PP	NA	NP	57 (2.2)	57 (2.2)	21 (1440)	21 (1440)	30 (2055)	30 (2055)	NA	NA	SI, B
L & M Supply | www.landmsupplyco.com													
BX Grid 11 Type 1A	Integrally formed biaxial	PP			26 (1.0)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1,300)			
BX Grid 12 Type 2A	Integrally formed biaxial	PP			26 (1.0)	33 (1.3)	11.8 (810)	19.6 (1,340)	19.2 (1,310)	28.8 (1,970)			
BX1500	Integrally formed biaxial	PP			25 (1.0)	31 (1.2)	17.5 (1,200)	20.0 (1,370)	27 (1,850)	20 (1,370)			
SQ2020	Integrally formed biaxial	PP			38 (1.5)	38 (1.5)	13 (890)	13 (890)	20 (1,370)	20 (1,370)			
SQ3030	Integrally formed biaxial	PP			38 (1.5)	38 (1.5)	21 (1,440)	21 (1,440)	30 (2,055)	30 (2,055)			

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					MD	XD	MD	XD	MD	XD			
L.E. Geosolutions, LLC | www.legeosolutions.com													
LEgeo BX Type 1	Integrally formed	PP	NA	NA	25 (1.0)	36 (1.4)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1,300)	NA	NA	SI, B
LEgeo BX Type 2	Integrally formed	PP	NA	NA	25 (1.0)	36 (1.4)	11.8 (810)	19.6 (1,340)	19.2 (1,310)	28.8 (1,970)	NA	NA	SI, B
LEgeo BX1515	Integrally formed	PP	NA	NA	40 (1.6)	40 (1.6)	7.0 (480)	7.0 (480)	15.0 (1,030)	15.0 (1,030)	NA	NA	SI, B
LEgeo BX2020	Integrally formed	PP	NA	NA	40 (1.6)	40 (1.6)	13.8 (950)	13.8 (950)	20.0 (1,370)	20.0 (1,370)	NA	NA	SI, B
LEgeo BX2525	Integrally formed	PP	NA	NA	40 (1.6)	40 (1.6)	16.9 (1,160)	16.9 (1,160)	25.0 (1,710)	25.0 (1,710)	NA	NA	SI, B
LEgeo BX3030	Integrally formed	PP	NA	NA	40 (1.6)	40 (1.6)	21.0 (1,439)	21.0 (1,439)	30.0 (2,050)	30.0 (2,050)	NA	NA	SI, B
LEgeo BX3030L	Integrally formed	PP	NA	NA	66 (2.6)	66 (2.6)	21.0 (1,439)	21.0 (1,439)	30.0 (2,050)	30.0 (2,050)	NA	NA	SI, B
LEgeo RG1010	Woven	Glass-fiber	Modified polymer	NA	12.5 (0.5)	12.5 (0.5)	NA	NA	100 (6,860)	100 (6,860)	NA	NA	A/O, PR
LEgeo RG2010	Woven	Glass-fiber	Modified polymer	NA	12.5 (0.5)	12.5 (0.5)	NA	NA	100 (6,860)	200 (13,720)	NA	NA	A/O, PR
Low & Bonar Inc. | www.lowandbonar.com													
Enkagrid PRO 90	Laser-welded	PET	NA	NA	111 (4.4)	35 (1.4)	81 (55480)	NA	105 (7192)/6	NA	70.4 (4822.4)	60.9 (4175)	E,S,W
Maccaferri Inc. | www.maccaferri.com/us													
MacGrid EG 12.19	Extrusion	PP			0.26 (1.02)	34 (1.34)	8.5 (582)	13.4 (918)	12.4 (850)	19 (1302)			Stabilization/ Base Reinforcement
MacGrid EG 19.29	Extrusion	PP			0.26 (1.02)	34 (1.34)	11.8 (809)	19.6 (1343)	19.2 (1315)	28.8 (1973)			Stabilization/ Base Reinforcement
MacGrid WG5	Woven	Polyester	PVC or SBR	NP	varies	varies	32.5 (2227)	12.5 (856.5)	65 (4453.9)	25 (1713)		33.68 (2307.7)	Soil Reinforcement
MacGrid WG20	Woven	Polyester	PVC or SBR	NP	varies	varies	98,7 (6763.1)	16.45 (1127.2)	210 (14389.6)	35 (2398.3)		108.81 (7455.7)	Soil Reinforcement
ParaGrid 120/5	Aligned and Co-extruded	Polyester	LLDPE	480 (14.2)	426 (16.8)	42 (1.65)			120 (8223)	5 (342.6)	87.6 (6002)	81.6 (5591)	Soil Reinforcement
ParaLink 500	Aligned and Co-extruded	Polyester	LLDPE	1220 (36)	940 (37)	90 (3.6)			503 (34467)		367 (25147)	342 (23435)	Soil Reinforcement
MacGrid AR 10.7	Knitted	Glassfiber		530 (15.6)	12.7 (0.5)	12.7 (0.5)			100 (6850)	100 (6850)			Asphalt Reinforcement

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					MD	XD	MD	XD	MD	XD			
NAUE GmbH & Co. KG | www.naue.com													
Secugrid 30/30 Q6	Laid and welded	PET	N/A	320 (9.44)	34 (1.34)	34 (1.34)	24 (1,645)	24 (1,645)	30 (2,055)	30 (2,055)	22.1 (1,511)	19.7 (1,348)	B, SI, W, E, S
Secugrid 40/40 Q6	Laid and welded	PET	N/A	360 (10.62)	34 (1.34)	33 (1.30)	32 (2,195)	32 (2,195)	40 (2,740)	40 (2,740)	29.4 (2,015)	26.1 (1,793)	B, SI, W, E, S
Secugrid 60/60 Q6	Laid and welded	PET	N/A	620 (18.29)	32 (1.26)	31 (1.22)	48 (3,289)	48 (3,289)	60 (4,111)	60 (4,111)	44.1 (3,023)	39.2 (2,689)	B, SI, W, E, S
Secugrid 80/80 Q6	Laid and welded	PET	N/A	675 (19.91)	30 (1.18)	30 (1.18)	64 (4,385)	64 (4,385)	80 (5,482)	80 (5,482)	58.8 (4,031)	52.1 (3,567)	B, SI, W, E, S
Secugrid 20/20 Q1	Laid and welded	PP	N/A	155 (4.57)	33 (1.30)	33 (1.30)	16 (1,096)	16 (1,096)	20 (1,370)	20 (1,370)	N/A	N/A	B, SI
Secugrid 30/30 Q1	Laid and welded	PP	N/A	200 (5.90)	32 (1.26)	32 (1.26)	24 (1,645)	24 (1,645)	30 (2,055)	30 (2,055)	N/A	N/A	B, SI
Secugrid 40/40 Q1	Laid and welded	PP	N/A	240 (7.08)	31 (1.22)	31 (1.22)	32 (2,193)	32 (2,193)	40 (2,740)	40 (2,740)	N/A	N/A	B, SI
Secugrid 60/60 Q1	Laid and welded	PP	N/A	360 (10.62)	31 (1.22)	31 (1.22)	48 (3289)	48 (3289)	60 (4,110)	60 (4,110)	N/A	N/A	B, SI
Secugrid 80/80 Q1	Laid and welded	PP	N/A	440 (12.98)	31 (1.22)	30 (1.18)	50 (3,426)	50 (3,426)	80 (5,482)	80 (5,482)	N/A	N/A	B, SI
Combigrid 20/20 Q1 GRK 4 C	Laid and welded/ nonwoven	PP	N/A	155 (4.57)	33 (1.30)	33 (1.30)	16 (1,096)	16 (1,096)	20 (1,370)	20 (1,370)	N/A	N/A	B, SI
Combigrid 30/30 Q1 GRK 4 C	Laid and welded/ nonwoven	PP	N/A	200 (5.90)	32 (1.34)	32 (1.34)	24 (1,645)	24 (1,645)	30 (2,055)	30 (2,055)	N/A	N/A	B, SI
Combigrid 40/40 Q1 GRK 4 C	Laid and welded/ nonwoven	PP	N/A	240 (7.08)	31 (1.22)	31 (1.22)	32 (2,193)	32 (2,193)	40 (2,740)	40 (2,740)	N/A	N/A	B, SI
Combigrid 60/60 Q1 GRK 4 C	Laid and welded/ nonwoven	PP	N/A	360 (10.62)	31 (1.22)	31 (1.22)	48 (3289)	48 (3289)	60 (4,110)	60 (4,110)	N/A	N/A	B, SI

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PP = Polypropylene

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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.

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RF_{CR} = Reduction factor for creep
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B = Base reinforcement
E = Embankments
PR = Pavement reinforcement
S = Slopes
SI = Subgrade improvement
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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/m² (oz/yd²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Propex GeoSolutions | www.propexglobal.com													
GRIDPRO® BXP11	Integrally formed	PP	NA	NA	25.4 (1.0)	33 (1.3)	8.5 (580)	13.4 (920)	12.4 (850)	19.0 (1,300)	NA	NA	SI, B
GRIDPRO® BXP12	Integrally formed	PP	NA	NA	25.4 (1.0)	33 (1.3)	11.8 (810)	19.6 (1,340)	19.1 (1,310)	28.7 (1,970)	NA	NA	SI, B
Saint-Gobain ADFORS America | www.adfors.com													
GlasGrid 8501	Knitted	FG	EP	397 (11.7)	12.5 (0.5)	12.5 (0.5)	N/A	N/A	100 (6852)/ 3%	100 (6852)/ 3%	N/A	N/P	A/O, PR
GlasGrid 8511	Knitted	FG	EP	397 (11.7)	25 (1.0)	25 (1.0)	N/A	N/A	100 (6852)/ 3%	100 (6852)/ 3%	N/A	N/P	A/O, PR
GlasGrid 8502	Knitted	FG	EP	610 (18.0)	12.5 (0.5)	12.5 (0.5)	N/A	N/A	100 (6852)/ 3%	200 (13,704)/ 3%	N/A	N/P	A/O, PR
GlasGrid 8512	Knitted	FG	EP	610 (18.0)	25 (1.0)	19 (0.75)	N/A	N/A	100 (6852)/ 3%	200 (13,704)/ 3%	N/A	N/P	A/O, PR
GlasGrid 8501 TF	Knitted	FG	EP	400 (11.8)	12.5 (0.5)	12.5 (0.5)	N/A	N/A	100 (6852)/ 3%	100 (6852)/ 3%	N/A	N/P	A/O, PR
GlasGrid 8511 TF	Knitted	FG	EP	400 (11.8)	25 (1.0)	25 (1.0)	N/A	N/A	100 (6852)/ 3%	100 (6852)/ 3%	N/A	N/P	A/O, 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			
Strata Systems Inc. | www.geogrid.com													
Microgrid	Precision knitted	PET	Polymeric	NP	6.4 (0.3)	2.5 (0.1)	7 (500)	4 (300)	29 (2,000)	29 (2,000)	17 (1,149)	13 (871)	E, W, S, SI
SB10	Integrally formed	PP	NA	NA	36.0 (1.4)	38.0 (1.5)	7 (479)	7 (479)	15 (1,027)	15 (1,027)	NA	NA	SI, B
SB11	Integrally formed	PP	NA	NA	26.0 (1.0)	35.0 (1.4)	9 (580)	13 (920)	12 (850)	19 (1,300)	NA	NA	SI, B
SB12	Integrally formed	PP	NA	NA	26.0 (1.0)	35.0 (1.4)	12 (810)	10 (1340)	19 (1,310)	29 (1,970)	NA	NA	SI, B
SB30	Integrally formed	PP	NA	NA	36.0 (1.4)	34.0 (1.3)	20 (1370)	20 (1370)	30 (2,055)	30 (2,055)	NA	NA	SI, B
SG150	Precision knitted	PET	Polymeric	NP	25.4 (1.0)	24.1 (1.0)	10 (650)	4 (300)	27 (1,875)	27 (1,875)	17 (1,136)	13 (861)	E, W, S, SI
SG200	Precision knitted	PET	Polymeric	NP	18.3 (0.7)	16.5 (0.7)	21 (1,400)	NA	53 (3,600)	NA	34 (2,323)	28 (1,919)	E, W, S
SG350	Precision knitted	PET	Polymeric	NP	21.6, 15.2 (0.9, 0.6)	14.0 (0.6)	27 (1,850)	NA	73 (5,000)	NA	47 (3,226)	39 (2,666)	E, W, S
SG500	Precision knitted	PET	Polymeric	NP	62.2 (2.5)	25.4 (1.0)	29 (1,950)	NA	93 (6,400)	NA	60 (4,129)	50 (3,412)	E, W, S
SG550	Precision knitted	PET	Polymeric	NP	21.6, 8.9 (0.9, 0.4)	24.1 (1.0)	36 (2,460)	NA	119 (8,150)	NA	77 (5,258)	63 (4,346)	E, W, S
SG650	Precision knitted	PET	Polymeric	NP	65.0 (2.6)	62.5 (2.5)	39 (2,700)	NA	146 (10,000)	NA	94 (6,452)	78 (5,332)	E, W, S
SG700	Precision knitted	PET	Polymeric	NP	62.2 (2.5)	24.1 (1.0)	43 (2,937)	NA	172 (11,800)	NA	111 (7,613)	92 (6,292)	E, W, S
SG1200	Precision knitted	PET	Polymeric	NP	63.3 (2.5)	24.5 (1.0)	50 (3,426)	NA	200 (13,704)	NA	129 (8,841)	107 (7,307)	E, W, S
SG1300	Precision knitted	PET	Polymeric	NP	63.0 (2.5)	23.5 (0.9)	75 (5,139)	NA	300 (20,556)	NA	194 (13,262)	160 (10,960)	E, W, S
SG1400	Precision knitted	PET	Polymeric	NP	42.0, 12.0, 12.0 (1.7, 0.5, 0.5)	16.0 (0.6)	100 (6,852)	NA	400 (27,408)	NA	258 (17,683)	213 (14,614)	E, W, S
SGB 30	Precision knitted	PET	Polymeric	NP	NP	NP	14 (926)	(9) 617	30 (2,056)	30 (2,056)	21 (1,419)	17 (1,179)	E, W, S, SI, B
SGB 80	Precision knitted	PET	Polymeric	NP	NP	NP	36 (2,467)	23 (1576)	80 (5,482)	80 (5,482)	55 (3,783)	46 (3,132)	E, W, S, SI, B
SGB 100	Precision knitted	PET	Polymeric	NP	NP	NP	45 (3,084)	26 (1781)	100 (6,853)	100 (6,852)	69 (4,729)	57 (3,913)	E, W, S, SI, B
SGU 40	Precision knitted	PET	Polymeric	NP	23.2 (0.9)	21.3 (0.9)	24 (1,644)	NA	40 (2,741)	NA	28 (1,892)	23 (1,570)	E, W, S
SGU 60	Precision knitted	PET	Polymeric	NP	17.9 (0.7)	21.1 (0.9)	36 (2,466)	NA	60 (4,112)	NA	41 (2,837)	34 (2,351)	E, W, S
SGU 80	Precision knitted	PET	Polymeric	NP	21.1 (0.8)	21.2 (0.9)	42 (2,877)	NA	80 (5,482)	NA	55 (3,783)	46 (3,132)	E, W, S
SGU 100	Precision knitted	PET	Polymeric	NP	62.2 (2.5)	28.4 (1.1)	46 (3,151)	NA	100 (6,853)	NA	69 (4,729)	57 (3,913)	E, W, S
SGU 120	Precision knitted	PET	Polymeric	NP	22.2 (0.9)	25.8 (1.0)	56 (3,837)	NA	120 (8,223)	NA	83 (5,674)	69 (4,694)	E, W, S
SGU 150	Precision knitted	PET	Polymeric	NP	62.6 (2.5)	25.1 (1.0)	69 (4,727)	NA	150 (10,279)	NA	104 (7,093)	86 (5,866)	E, W, S
SGU 180	Precision knitted	PET	Polymeric	NP	53.4 (2.1)	26.3 (1.0)	81 (5,551)	NA	180 (12,334)	NA	124 (8,511)	103 (7,038)	E, W, S
SGU 200	Precision knitted	PET	Polymeric	NP	63.3 (2.5)	24.5 (1.0)	90 (6,168)	NA	200 (13,704)	NA	138 (9,457)	114 (7,819)	E, W, S
SGU 300	Precision knitted	PET	Polymeric	NP	63.0 (2.5)	23.5 (0.9)	135 (9,251)	NA	300 (20,556)	NA	207 (14,178)	171 (11,718)	E, W, S
SGU 400	Precision knitted	PET	Polymeric	NP	42.0, 12.0, 12.0 (1.7, 0.5, 0.5)	16.0 (0.6)	180 (12,335)	NA	400 (27,408)	NA	276 (18,906)	228 (15,630)	E, W, S

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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/m² (oz/yd²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Synteen Technical Fabrics | www.synteen.com													
SF20	Woven	PET	PVC	NA	25 (1.00)	20 (0.8)	NA	NA	39.4 (2700)	NA	26.1 (1788)	22.6 (1548)	S, W, B, E, PR
SF35	Woven	PET	PVC	NA	20 (0.79)	25 (1.00)	NA	NA	52.5 (3600)	NA	34.8 (2384)	30.1 (2064)	S, W, B, E, PR
SF55	Woven	PET	PVC	NA	20 (0.79)	25 (1.00)	NA	NA	73.0 (5000)	NA	48.3 (3311)	41.8 (2867)	S, W, B, E, PR
SF65	Woven	PET	PVC	NA	20 (0.79)	25 (1.00)	NA	NA	90.5 (6200)	NA	59.9 (4106)	51.9 (3555)	S, W, B, E, PR
SF80	Woven	PET	PVC	NA	20 (0.79)	25 (1.00)	NA	NA	110.2 (7550)	NA	73.0 (5000)	63.2 (4329)	S, W, B, E, PR
SF90	Woven	PET	PVC	NA	16 (0.63)	25 (1.00)	NA	NA	131.3 (9000)	NA	87.0 (5960)	75.3 (5160)	S, W, B, E, PR
SF110	Woven	PET	PVC	NA	16 (0.63)	25 (1.00)	NA	NA	150.3 (10,300)	NA	99.6 (6821)	86.2 (5906)	S, W, B, E, PR
SF180	Woven	PET	PVC	NA	13 (0.51)	25 (1.00)	NA	NA	211.6 (14,500)	NA	140.1 (9603)	121.3 (8314)	S, W, B, E, PR
SF190	Woven	PET	PVC	NA	10 (0.39)	25 (1.00)	NA	NA	300.1 (20560)	NA	198.7 (13616)	172.0 (11789)	S, W, B, E, PR
SF350	Woven	PET	PVC	NA	10 (0.39)	25 (1.00)	NA	NA	402.8 (27,600)	NA	266.8 (18278)	231.0 (15825)	S, W, B, E, PR
TechFab India | www.techfabindia.com													
Techgrid U-400/30	Knitted	PET	PVC	NP	30 (1.18)	18 (0.71)	NA	NA	400 (27410)	30 (2056)	275.8 (18903)	212.1 (14531)	W, S, E
Nonwoven Geocomposite TGC-200/200	Knitted	PET/PP NW	NA	NP	NP	NP	90 (6166)	90 (6166)	200 (13705)	200 (13705)	130.7 (8955)	85.1 (5830)	SI
Tech Grid PP 20/20	Extruded biaxial	PP	NA	310 (9.14)	38 (1.49)	38 (1.49)	7.5 (513)	7.5 (513)	20 (1370)	20 (1370)	NP	NP	R, E
TECHSTRAP 100	Extrusion Coating	PET + LLDPE	Extrusion	NP	NP	NP	35 (7868)	NP	100 (22481)	NP	NP	55.94 (12576)	reinforcement for retaining wall
TenCate Geosynthetics | www.mirafi.com													
Mirafi Miramesh	Woven	PP	NA	NA	NP	NP	NA	NA	21.0 (1440)	25.3 (1733)	NA	NA	W
Miragrid 2XT	Woven	PET	PVC	NP	NP	NP	NA	NA	29.2 (2000)	29.2 (2000)	20.1 (1379)	17.4 (1142)	W, S, E
Miragrid 3XT	Woven	PET	PVC	NP	NP	NP	15.4 (1056)	NA	51.1 (3500)	NA	35.2 (2414)	30.5 (2090)	W, S, E
Miragrid 5XT	Woven	PET	PVC	NP	NP	NP	25.4 (1740)	NA	68.6 (4700)	NA	47.3 (3241)	40.9 (2806.0)	W, S, E
Miragrid 7XT	Woven	PET	PVC	NP	NP	NP	31.5 (2160)	NA	86.1 (5900)	NA	59.4 (4069)	51.4 (3523)	W, S, E
Miragrid 8XT	Woven	PET	PVC	NP	NP	NP	36.8 (2520)	NA	108.0 (7400)	NA	74.5 (5103)	64.5 (4419)	W, S, E
Miragrid 10XT	Woven	PET	PVC	NP	NP	NP	45.5 (3120)	NA	138.6 (9500)	NA	95.6 (6552)	82.8 (5672.0)	W, S, E
Miragrid 20XT	Woven	PET	PVC	NP	NP	NP	77.9 (5340)	NA	200.0 (13705)	NA	137.9 (9452)	119.4 (8183.0)	W, S, E
Miragrid 22XT	Woven	PET	PVC	NP	NP	NP	97.8 (6700)	NA	300.0 (20559)	NA	206.9 (14179)	179.1 (12276.0)	W, S, E
Miragrid 24XT	Woven	PET	PVC	NP	NP	NP	102.1 (7000)	NA	400.0 (27415)	NA	275.9 (18907)	238.8 (16370.0)	W, S, E

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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/m² (oz/yd²)	Aperture Size mm (in)		Strength @ 5% Strain		Ultimate Strength/% (Tult)				
					MD	XD	MD	XD	MD	XD			
Tensar International Corp. | www.tensar-international.com													
BX1200 (BX Class 2)	Integrally formed	PP	NA	NA	25 [A] (1.0) [A]	33 [A] (1.3) [A]	11.8 (810)	19.6 (1340)	19.2 (1310)	28.8 (1970)	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
TX190L	Integrally formed	PP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
TriAx FilterGrid FG60	Integrally formed and laminated	PP	NA	413 (12.2)	NA	NA	NA	NA	NA	NA	NA	NA	SI, B
GlasGrid 8511	Knitted	FG	EP	405 (12)	25 (1.0)	25 (1.0)	NA	NA	100 @ 3% (6720)	100 @ 3% (6720)	NA	NP	A/O, PR
GlasGrid 8511TF	Knitted w/ tackfilm (TF)	FG TF	EP	432 (12.7)	25 (1.0)	25 (1.0)	NA	NA	100 @ 3% (6720)	100 @ 3% (6720)	NA	NP	A/O, PR
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
UX1900HS	Integrally formed	HDPE	NA	NA	420 (16.5)	NA	110 (7535)	NA	230 (15,760)	NA	92.7 (6354)◇	88.3 (6050)◇	W, E, S
◇Creep rupture extrapolated to a 120-year time period per ASTM D 5262 ◇◇UXxx00HS geogrids use for non-connected system only													
Titan Environmental Containment Ltd. | www.titanenviro.com													
TE-FGP21 Fiberglass Grid	Woven	FG	Polymeric	610 (18.1)	25.4 (1.0)	19.0 (0.75)	NA	NA	100 (6854)	200 (13,708)	NA	NA	A/O, PR
TE-FGP10 Fiberglass Grid	Woven	FG	Polymeric	420 (12.5)	12.7 (0.5)	12.7 (0.5)	NA	NA	100 (6854)	100 (6854)	NA	NA	A/O, PR
TE-FGP11 Fiberglass Grid	Woven	FG	Polymeric	420 (12.5)	25.4 (1.0)	25.4 (1.0)	NA	NA	100 (6854)	100 (6854)	NA	NA	A/O, PR
TE-FGP20 Fiberglass Grid	Woven	FG	Polymeric	610 (18.1)	12.7 (0.5)	12.7 (0.5)	NA	NA	100 (6854)	200 (13,708)	NA	NA	A/O, PR
TE-FGC10 Composite Grid	Woven	FG PP	Polymeric	570 (16.9)	12.7 (0.5)	12.7 (0.5)	NA	NA	100 (6854)	100 (6854)	NA	NA	A/O, PR

[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 that 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.

« *Geosynthetics* recommends you contact the manufacturers before making any specifying/purchasing decisions »