



TECHNICAL DATA

TechGrid U Series High Performance Uniaxial Geogrid



TechGrid U series geogrids are manufactured from high tenacity and high molecular weight polyester yarns to meet the requirements of the most demanding soil reinforcement applications. The geogrid is formed into a dimensionally stable grid structure using an advanced weft insertion warp knitting process and then impregnated with a durable polymeric coating to enhance dimensional stability, increase durability, and resist damage under the most severe construction installation conditions.

PROPERTY	TEST METHOD	UNIT	TGU 40	TGU 60	TGU - 80	TGU 100	TGU 120	TGU 150	TGU 200	TGU 250	TGU 300	TGU 350	TGU 400	
Ultimate Tensile Strength ¹ (MD)	ASTM D6637	lbs/ft	2741	4111	5482	6852	8223	10278	13704	17130	20557	23983	27409	
		kN/m	40	60	80	100	120	150	200	250	300	350	400	
Tensile Strength at 5% Strain ¹		lbs/ft	1370	1713	2330	2741	3083	3769	4454	4797	5482	6167	6852	
		kN/m	20	25	34	40	45	55	65	70	80	90	100	
Elongation at Ultimate			%	12	12	12	12	12	12	12	12	12	12	12
Creep Reduction Factor (RFCR)		ASTM D6692/D5262		1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
Creep Limited Strength	ASTM D6692/D5262	lbs/ft	1903	2855	3807	4758	5710	7138	9517	11896	14276	16655	19034	
		kN/m	27.8	41.7	55.6	69.4	83.3	104.2	138.9	173.6	208.3	243.1	277.8	

REDUCTION FACTORS FOR INSTALLATION DAMAGE (RFID)

RFID (Soil - 15mm minus, D50 ≤ 0.2mm) (SM, SC, CL, ML) - Sand & Silt	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
RFID (Soil - 15mm minus, D50 ≤ 5mm) (SW, SP, SM, SC) - Sand	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
RFID (Soil - 25mm (1") minus, D50 ≤ 10mm) (GP, GW, GM, GC, SW, SP, SM, SC)	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
RFID (Soil - 50mm (1.5") minus, D50 ≤ 20mm) (GP)	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14

DURABILITY (RFD)

RFD (4 ≤ pH ≤ 9) (PET - CEG <30, Molecular Weight >25,000)	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
--	------	------	------	------	------	------	------	------	------	------	------	------	------

LONG TERM DESIGN STRENGTH² (LTDS OR TAL) (RFD: 4 ≤ PH ≤ 9)

USCS Soil Classification (SM, SC, CL, ML)	lbs/ft	1696	2544	3393	4241	5089	6361	8482	10602	12723	14844	16964
	kN/m	25	37	50	62	74	93	124	155	186	217	248
USCS Soil Classification (SW, SP, SM, SC)	lbs/ft	1664	2496	3328	4159	4992	6239	8319	10398	12479	14558	16638
	kN/m	24	36	49	61	73	91	121	152	182	212	243
USCS Soil Classification (GP, GW, GM, GC, SW, SM, SC)	lbs/ft	1588	2381	3175	3969	4763	5953	7937	9921	11906	13891	15875
	kN/m	23	35	46	58	70	87	116	145	174	203	232
USCS Soil Classification (GP)	lbs/ft	1518	2277	3036	3795	4554	5692	7589	9486	11384	13281	15179
	kN/m	22	33	44	55	66	83	111	138	166	194	222

SOIL INTERACTION COEFFICIENTS FOR PULLOUT (CI) AND DIRECT SLIDING (CDS)

Silts/Clay (ML, CL)	0.6 - 0.7												
Sandy Silts & Clay (SC, GC)	0.7 - 0.8												
Poorly Graded Sand and Gravel, Silty Sand (GP, GM, SP, SM)	0.8 - 0.9												
Well-Graded Gravel, Sand Gravel Mix, Well-Graded Sand (SW, GW)	0.9 - 1.0												

PHYSICAL PROPERTIES

Roll length	Feet (m)	328.1 (100)						328.1 (100)					
Roll width	Feet (m)	6.6 (2.0)						6.6 (2.0) and 16.7 (5.1) Call for availability					
Roll weight	lbs (kg)	88.7(40.2)	105.5 (47.8)	128.8 (58.4)	150.5 (68.2)	168.5 (76.4)	199.2 (90.4)	248.9 (112.9)	280.7 (127.3)	325.3 (147.5)	369.0 (167.4)	420.7 (190.8)	
Roll weight for 5.1 m width	lbs (kg)							642.2(291.3)	723.1(328)	836.8(379.6)	948.4(430.2)	1080.3 (490)	

1. Values Shown are Minimum Average Roll Values (lot average minus 2 x standard deviations)
2. LTDS or Tal = TULT/(RFCR x RFID x RFD)
3. Machine Direction (MD)
4. TechFab's QA/QC testing laboratory is GAI-LAP certified.

TECHFAB USA
 4729 Peachtree Industrial Blvd
 Suite 100 Berkeley Lake
 GA 30092