



# 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 <sup>1</sup> (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 <sup>1</sup>		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 (RF <sub>CR</sub> )		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 (RF<sub>ID</sub>)

RFID (Soil -15mm minus, D50 ≤ 0.2mm) (SM, SC, CL, ML) - Sand & Silt	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
RFID (Soil - 15mm minus, D50 ≤ 5mm) (SW, SP, SM, SC) - Sand	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
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 (RF<sub>D</sub>)

RF <sub>D</sub> (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
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### Long term Design Strength<sup>2</sup> (LTDS or T<sub>al</sub>) (RFD: 4 ≤ pH ≤ 9)

USCS Soil Classification (SM, SC, CL, ML)	lbs/ft	1648	2472	3296	4119	4944	6180	8240	10300	12360	14420	16480
	kN/m	24.1	36.1	48.1	60.1	72.1	90.2	120.3	150.3	180.3	210.5	240.5
USCS Soil Classification (SW, SP, SM, SC)	lbs/ft	1648	2472	3296	4119	4944	6180	8240	10300	12360	14420	16480
	kN/m	24.1	36.1	48.1	60.1	72.1	90.2	120.3	150.3	180.3	210.5	240.5
USCS Soil Classification (GP, GW, GM, GC, SW, SM, SC)	lbs/ft	1587	2381	3175	3968	4762	5953	7937	9922	11907	13891	15875
	kN/m	23.2	34.8	46.4	57.9	69.5	86.9	115.8	144.8	173.7	202.8	231.7
USCS Soil Classification (GP)	lbs/ft	1518	2277	3036	3794	4553	5692	7589	9486	11384	13281	15179
	kN/m	22.2	33.3	44.3	55.3	66.4	83.1	110.8	138.4	166.1	193.9	221.5

### Soil Interaction Coefficients for Pullout (C) and Direct Sliding (C<sub>d</sub>)

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/wide	Feet (m)	347 (106) x 6.23 (1.9)											
Sq yard (m)/roll	Feet (m)	240 (200.1)											
Roll weight	lbs (kg)	89.3 (40.5)	106.2 (48.2)	129.7 (58.8)	151.5 (68.7)	169.7 (77.0)	200.6 (91.0)	250.6 (113.7)	282.6 (128.2)	327.5 (148.5)	371.5 (168.5)	423.6 (192.2)	

1. Values Shown are Minimum Average Roll Values (lot average minus 2 x standard deviations)
2. LTDS or T<sub>al</sub> = T<sub>ULT</sub> / (RF<sub>CR</sub> x RF<sub>ID</sub> x RF<sub>D</sub>)
3. Machine Direction (MD)
4. TechFab's QA/QC testing laboratory is GAI-LAP certified.
5. Wider roll widths and master rolls available for custom orders.

TechFab USA  
 960 Holmdel road, Suite 202,  
 Holmdel, NJ 07733  
 (706)407-0429  
 info@techfabusa.com