

STRATAGRID® SGU SERIES (UNIAXIAL)

Product Data Sheet: NCMA/Commercial/Private Guidelines

STRATAGRID® is a geogrid reinforcement for soil. These high performance geogrids are constructed of high molecular weight and high tenacity polyester yarns utilizing a complex knitting process and polymeric coating to provide superior engineering properties. Yarns are precision knitted into a dimensionally stable, uniform network of apertures providing significant tensile reinforcement capacity. STRATAGRID is engineered to be mechanically and chemically durable, in both the harsh construction installation phase and in aggressive soil environments.

Design Properties

Ultimate and Creep Limited Tensile Strengths		StrataMesh ^(1, 2, 5, 6)	SGB 30 ^(4, 5)	SGU 40	SGU 60	SGU 80	SGU 100	SGU 120	SGU 150	SGU 180	SGU 200	SGU 300	SGU 400	
Ultimate Strength ⁽³⁾ (MD)	ASTM D 6637 Method B Wide-Width	lbs/ft	1,764 x 1,884	2,055	2,740	4,111	5,482	6,852	8,222	10,278	12,334	13,704	20,556	27,408
		(kN/m)	25.8 x 27.5	30.0	40.0	60.0	80.0	100.0	120.0	150.0	180.0	200.0	300.0	400.0
Tensile Strength at 5% Strain ⁽³⁾	ASTM D 6637 Method B Wide-Width	lbs/ft	530 x 940	650 x 300	930	1,400	1,850	1,950	2,460	2,700	2,937	3,426	5,139	6,852
		(kN/m)	7.7 x 13.7	9.5 x 4.4	13.6	20.4	27.0	28.5	35.9	39.4	42.9	50.0	75.0	100.0
Creep Reduction Factor	ATSM D6692/D5262		4.00	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Creep Limited Strength	ASTM D5262/D6992	lbs/ft	441 x 471	1,417	1,890	2,835	3,781	4,726	5,670	7,088	8,506	9,451	14,177	18,902
		(kN/m)	6.45 x 6.88	20.7	27.6	41.4	55.2	69.0	82.8	103.4	124.1	137.9	206.9	258.1

Reduction Factors for Installation Damage (RF_{ID})

Reinforced Fill Description	StrataMesh ^(1, 2, 5, 6)	SGB 30 ^(4, 5)	SGU 40	SGU 60	SGU 80	SGU 100	SGU 120	SGU 150	SGU 180	SGU 200	SGU 300	SGU 400
RF _{ID} (Soil - 25mm minus, D ₅₀ ≤ 0.2mm) (SM, SC, CL, ML) - Sand & Silt	1.05	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
RF _{ID} (Soil - 25mm minus, D ₅₀ ≤ 5mm) (SW, SP, SM, SC) - Sand	1.50	1.25	1.25	1.25	1.25	1.10	1.10	1.10	1.10	1.10	1.10	1.10
RF _{ID} (Soil - 25mm (1") minus, D ₅₀ ≤ 10mm) (GP, GW, GM, GC, SW, SP, SM, SC)	1.90	1.35	1.35	1.35	1.35	1.15	1.15	1.15	1.15	1.15	1.15	1.15
RF _{ID} (Soil - 50mm (2") minus, D ₅₀ ≤ 20mm) (GP)	1.90	1.55	1.55	1.55	1.55	1.25	1.25	1.25	1.25	1.25	1.25	1.25

Reduction Factors for Durability (RF_D)

RFD (4 ≤ pH ≤ 9) (PET - CEG<30, MW>25,000)	1.10 ⁽⁶⁾	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 (LTDS or T_{al})⁽⁴⁾ (RF_D (4 ≤ pH ≤ 9))

USCS Soil Classification	StrataMesh ^(1, 2, 5, 6)	SGB 30 ^(4, 5)	SGU 40	SGU 60	SGU 80	SGU 100	SGU 120	SGU 150	SGU 180	SGU 200	SGU 300	SGU 400	
SM, SC, CL, ML	lbs/ft	382 x 408	1,171	1,562	2,343	3,125	3,905	4,686	5,858	7,030	7,811	11,716	15,622
	(kN/m)	5.58 x 5.95	17.1	22.8	34.2	45.6	57.0	68.4	85.5	102.6	114.0	171.0	228.0
SW, SP, SM, SC	lbs/ft	267 x 285	1,031	1,374	2,062	2,750	3,905	4,686	5,858	7,030	7,811	11,716	15,622
	(kN/m)	3.9 x 4.2	15.0	20.1	30.1	40.1	57.0	68.4	85.5	102.6	114.0	171.0	228.0
GP, GW, GM, GC, SW, SP, SM, SC	lbs/ft	211 x 225	954	1,272	1,909	2,546	3,736	4,482	5,603	6,724	7,471	11,207	14,942
	(kN/m)	3.1 x 3.3	13.9	18.6	27.9	37.2	54.5	65.4	81.8	98.1	109.0	163.6	218.1
GP	lbs/ft	211 x 225	831	1,108	1,663	2,217	3,437	4,124	5,155	6,186	6,873	10,310	13,747
	(kN/m)	3.1 x 3.3	12.1	16.2	24.3	32.4	50.2	60.2	75.2	90.3	100.3	150.5	200.6

Physical Properties

Roll Weight (6.25' wide, 200 sy)	Pounds	92 ⁽⁷⁾	83	77	95	120	138	156	181	204	N/A	N/A	N/A
	Kilograms	42 ⁽⁷⁾	38	35	43	54	63	71	82	93	N/A	N/A	N/A
Roll Weight (12.5' wide, 400 sy)	Pounds		170	160	203	254	289	326	375	421	454	628	728
	Kilograms		77	73	92	115	131	148	170	191	206	285	330
Product Weight	Ounces / Square Yard	5.7	6	5.6	7	9	10.5	11.9	13.9	15.7	17	24	28
	Grams / Square Meter	193.2	203	189.84	237	305	356.0	403.4	471.2	532.2	576	814	949

Soil Interaction Coefficients for Pullout (C_i) and Direct Sliding (C_{ds}) for SGU Series

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

- Denotes both machine and cross-machine direction strength (Biaxial Strength)
- StrataMesh ultimate tensile strength determined in accordance with ASTM D 4595
- Values shown are based on Minimum Average Roll Values (Lot Avg minus 2 x Standard Deviation)
- LTDS or T_{al} = T_{ULT} / (RF_{CR} x RF_{ID} x RF_D)
- Machine Direction (MD) x Cross Machine Direction (CMD)
- This product is made from polypropylene yarn
- Roll size is 8' wide, 240 sy

NOTES:
Special order roll sizes may be available for SGB product styles.
StrataGrid soil and segmental retaining wall unit interface testing reports are available upon request.



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This information has been carefully compiled by Strata Systems, Inc., and to the best of our knowledge is accurate. Final determination of the suitability of any information or material is the sole responsibility of the user. Structural design shall be performed by a licensed design professional.