

StrataGrid Geogrid

Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	T _{ult} (lb/ft)	T _{2%} (lb/ft)	T _{5%} (lb/ft)	J _{ave} (lb)	J (m-N/deg)	RF _{CR}			RF _D
								3-yr	75-yr	100-yr	
								26280 hrs	657000 hrs	876000 hrs	
								4.419 62536	5.8175 6537	5.94250 4106	
SG 150 (MD, CD)	PET	0.95 x 0.90	1875					1.46	1.58	1.60	1.30
Borrow ($\phi = 30^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 150 (MD, CD)	1.25	1.83	2.57	2.60	1027	730	721	0.8	0.462	0.8	24.79
Fine Aggregate ($\phi = 34^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 150 (MD, CD)	1.25	1.83	2.57	2.60	1027	730	721	0.8	0.5396	0.8	28.35
Coarse Aggregate ($\phi = 38^\circ$)											
Geogrid and Direction (MD, CD)	RF _{ID}	RF			T _{al} (lb/ft)			C _i	F*	C _{ds}	P (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 150 (MD, CD)	1.55	2.26	3.18	3.22	829	590	582	0.8	0.6250	0.8	32.01

Where,

- T_{ult} = wide width tensile strength @ ultimate (lb/ft),
- T_{2%} = wide width tensile strength @ 2% strain (lb/ft),
- T_{5%} = wide width tensile strength @ 5% strain (lb/ft),
- J_{ave} = average junction strength per rib (lb),
- J = aperture stability modulus (m-N/deg),
- RF_{CR} = creep reduction factor for 3, 75 and 100-yr design life,
- RF_D = durability (degradation) reduction factor,
- RF_{ID} = installation damage reduction factor,
- RF = (RF_{CR} × RF_{ID}) for 3-yr design life or (RF_{CR} × RF_D × RF_{ID}) for 75 and 100-yr design life,
- T_{al} = short-term design strength for 3-yr design life or LTDS for 75 and 100-yr design life (lb/ft) = T_{ult} / RF,
- C_i = coefficient of interaction,
- F* = pullout resistance factor = C_i tan ϕ ,
- C_{ds} = coefficient of direct sliding and
- tan ρ = soil-geogrid friction angle (deg) = C_{ds} tan ϕ .