

## 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 500 (MD)	PET	2.4 x 0.95	6300					1.43	1.54	1.55	1.30
<b>Borrow (<math>\phi = 30^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	$RF_{ID}$	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 500 (MD)	1.10	1.57	2.20	2.22	4005	2861	2842	0.8	0.462	0.8	24.79
<b>Fine Aggregate (<math>\phi = 34^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	$RF_{ID}$	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 500 (MD)	1.10	1.57	2.20	2.22	4012	2864	2838	0.8	0.5396	0.8	28.35
<b>Coarse Aggregate (<math>\phi = 38^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	$RF_{ID}$	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 500 (MD)	1.25	1.79	2.50	2.52	3524	2517	2501	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 = ( $RF_{CR} \times RF_{ID}$ ) for 3-yr design life or ( $RF_{CR} \times RF_D \times RF_{ID}$ ) 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 =  $C_i \tan \phi$ ,
- $C_{ds}$  = coefficient of direct sliding and
- $\tan \rho$  = soil-geogrid friction angle (deg) =  $C_{ds} \tan \phi$ .