

<b>Synten Geogrid</b>											
Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	T <sub>ult</sub> (lb/ft)	T <sub>2%</sub> (lb/ft)	T <sub>5%</sub> (lb/ft)	J <sub>ave</sub> (lb)	J (m-N/deg)	RF <sub>CR</sub>			RF <sub>D</sub>
								3-yr	75-yr	100-yr	
SF65 (MD)	PET	0.79 x 1.00	6200					1.43	1.51	1.51	1.30
Geogrid and Direction (MD, CD)	<b>Borrow (<math>\phi = 30^\circ</math>)</b>										
	RF <sub>ID</sub>	RF			T <sub>al</sub> (lb/ft)			C <sub>i</sub>	F*	C <sub>ds</sub>	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SF65 (MD)	1.05	1.50	2.06	2.06	4129	3008	3008	0.67	0.39	0.67	21.15
Geogrid and Direction (MD, CD)	<b>Fine Aggregate (<math>\phi = 34^\circ</math>)</b>										
	RF <sub>ID</sub>	RF			T <sub>al</sub> (lb/ft)			C <sub>i</sub>	F*	C <sub>ds</sub>	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SF65 (MD)	1.05	1.50	2.06	2.06	4129	3008	3008	0.67	0.45	0.67	24.32
Geogrid and Direction (MD, CD)	<b>Coarse Aggregate (<math>\phi = 38^\circ</math>)</b>										
	RF <sub>ID</sub>	RF			T <sub>al</sub> (lb/ft)			C <sub>i</sub>	F*	C <sub>ds</sub>	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SF65 (MD)	1.55	2.22	3.04	3.04	2797	2038	2038	0.67	0.52	0.67	27.63

Where,

- T<sub>ult</sub> = wide width tensile strength @ ultimate (lb/ft),
- T<sub>2%</sub> = wide width tensile strength @ 2% strain (lb/ft),
- T<sub>5%</sub> = wide width tensile strength @ 5% strain (lb/ft),
- J<sub>ave</sub> = average junction strength per rib (lb),
- J = aperture stability modulus (m-N/deg),
- RF<sub>CR</sub> = creep reduction factor for 3, 75 and 100-yr design life,
- RF<sub>D</sub> = durability (degradation) reduction factor,
- RF<sub>ID</sub> = installation damage reduction factor,
- RF = (RF<sub>CR</sub> × RF<sub>ID</sub>) for 3-yr design life or (RF<sub>CR</sub> × RF<sub>D</sub> × RF<sub>ID</sub>) for 75 and 100-yr design life,
- T<sub>al</sub> = short-term design strength for 3-yr design life or LTDS for 75 and 100-yr design life (lb/ft) = T<sub>ult</sub> / RF,
- C<sub>i</sub> = coefficient of interaction,
- F\* = pullout resistance factor = C<sub>i</sub> tan  $\phi$  ,
- C<sub>ds</sub> = coefficient of direct sliding and
- tan  $\rho$  = soil-geogrid friction angle (deg) = C<sub>ds</sub> tan  $\phi$  .