

## Tensor Geogrid

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	
BX1220 (CD)	PP	1.3	1,970	620	1,340						
<b>Borrow (<math>\phi = 30^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	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				
BX1220(CD)								0.8	0.462	0.8	24.79
<b>Fine Aggregate (<math>\phi = 34^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	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				
BX1220(CD)								0.8	0.54	0.8	28.35
<b>Coarse Aggregate (<math>\phi = 38^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	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				
BX1220 (CD)								0.9	0.7	0.8	32.0

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  $\phi$  .