Tensar 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	
UX1600MSE/ HS (MD)	HDPE	17.7	9,870					2.24	2.54	2.57	1.1

Geogrid and Direction (MD, CD)	Borrow (ϕ = 30°)									
	RF_{ID}	RF			T_{al} (lb/ft)			C_i	F*	C_{ds}	ρ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1600MSE/ HS (MD)	1.1	2.46	3.07	3.11	4,012	3,215	3,174	0.6	0.346	0.8	24.79

Geogrid and Direction (MD, CD)	Fine Aggregate (ϕ = 34°)									
	RF_{ID}	RF			T_{al} (lb/ft)			C_i	F*	C_{ds}	ρ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1600MSE/ HS (MD)	1.18	2.64	3.30	3.34	3,739	2,991	2,955	0.75	0.506	0.8	28.35

Geogrid and Direction (MD, CD)	Coarse Aggregate (ϕ = 38°)									
	RF_{ID}	RF			T_{al} (lb/ft)			C_i	F*	C_{ds}	ρ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
UX1600MSE/ HS (MD)	1.60	3.58	4.47	4.52	2,757	2,208	2,184	0.8	0.625	0.8	32.0

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) = $C_{ds} \tan \phi$.