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	
UX1700MSE/HS (MD)	HDPE	17.9	11,990		5,140			2.23	2.63	2.67	1.3

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				
UX1700MSE/HS (MD)	1.1	2.45	3.76	3.81	4,894	3,188	3,147	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				
UX1700MSE/HS (MD)	1.1	2.45	3.76	3.81	4,894	3,188	3,147	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				
UX1700MSE/HS (MD)	1.25	2.79	4.27	4.34	4,297	2,808	2,763	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-year design life,
RF_D = durability (degradation) reduction factor,
RF_{ID} = installation damage reduction factor,
RF = $RF_{ID} \times RF_{CR} \times RF_D$ for 3, 75 and 100-year design life,
T_{al} = short-term design strength for 3-year design life (lb/ft) = $T_{ult} / (RF_{ID} \times RF_{CR})$ or LTDS for 75 and 100-year 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) = $C_{ds} \tan \Phi$.