Hanes Geogrid

Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	T_{ult}[1] (lb/ft)	$T_{2\%}$[1] (lb/ft)	$T_{5\%}$[1] (lb/ft)	Xj_{ave}[1] (lb)	J[1] (m-N/deg)	RF_{CR}			RF_D
								3-yr	75-yr	100-yr	
RX1200 (MDxCD)	PP	1.0x1.4	1310x1970	410x620	810x1340	1215x1830	0.65				

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				
RX1200 (MDxCD)								0.67	0.38	0.67	21

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				
RX1200 (MDxCD)								0.67	0.45	0.67	24

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				
RX1200 (MDxCD)								0.67	0.52	0.67	27

[1] "Minimum Average Roll Values" (MARV) in accordance with ASTM D4439

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),
Xj_{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} × RF_{ID}) for 3-yr design life or (RF_{CR} × RF_D × 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) = $C_{ds} \tan \phi$.