

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)	X _{jave} ¹ (lb)	J ¹ (m-N/deg)	RF _{CR}			RF _D
								3-yr	75-yr	100-yr	
RX1100 (MDxCD)	PP	1.0x1.4	850x1300	280x450	580x920	790x1200	0.32				
Borrow ($\Phi = 30^\circ$)											
Geogrid and Direction (MD, CD)	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				
RX1100 (MDxCD)							0.67	0.38	0.67	21	
Fine Aggregate ($\Phi = 34^\circ$)											
Geogrid and Direction (MD, CD)	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				
RX1100 (MDxCD)							0.67	0.45	0.67	24	
Coarse Aggregate ($\Phi = 38^\circ$)											
Geogrid and Direction (MD, CD)	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				
RX1100 (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),

X_{jave} = 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 Φ ,

C_{ds} = coefficient of direct sliding and

tan ρ = soil-geogrid friction angle (deg) = C_{ds} tan Φ .