

# 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	
EGRID3030 (MDxCD)	PP	1.6x1.6	2055x2055	750x750	1480x1480	1950x1950					
Geogrid and Direction (MD, CD)	Borrow ( $\phi = 30^\circ$ )										
	$RF_{ID}$	$RF$			$T_{al}$ (lb/ft)			$C_i$	$F^*$	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
EGRID3030 (MDxCD)								0.67	0.38	0.67	21
Geogrid and Direction (MD, CD)	Fine Aggregate ( $\phi = 34^\circ$ )										
	$RF_{ID}$	$RF$			$T_{al}$ (lb/ft)			$C_i$	$F^*$	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
EGRID3030 (MDxCD)								0.67	0.45	0.67	24
Geogrid and Direction (MD, CD)	Coarse Aggregate ( $\phi = 38^\circ$ )										
	$RF_{ID}$	$RF$			$T_{al}$ (lb/ft)			$C_i$	$F^*$	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
EGRID3030 (MDxCD)								0.67	0.52	0.67	27

<sup>1</sup> “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,

$RF$  = ( $RF_{CR} \times RF_{ID}$ ) 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) =  $C_{ds} \tan \phi$ .