

Table 3.4 RECON 24-INCH/Tensar Input Parameters for MSEW Program and 50% Coverage.

PROPERTY	GEOGRID at 50% Coverage in Wall Fill and at 50% Connection Coverage			
	UX1400MSE	UX1500MSE	UX1600MSE	UX1700MSE
Soil Reinforcement Tensile Strength				
Ultimate Strength, T_{ult} (lbs/ft)	4796	7811	9866	11990
Durability Reduction Factor, RF_D	1.1	1.1	1.1	1.1
Installation Damage Reduction Factor, RF_{ID} , with gravelly sand backfill	1.15	1.10	1.10	1.10
Creep Reduction Factor, RF_{CR}	2.65	2.65	2.65	2.65
Long-Term Strength, T_{al} (lbs/ft)	1431	2436	3077	3739
Overall Factor of Safety	1.5	1.5	1.5	1.5
Allowable Design Load, T_a (lb/ft)	954	1624	2051	2493
Percent Coverage, R_c (%)	50	50	50	50
Design Load per Unit Width of Wall (lb/ft of wall)	477	812	1026	1246
Connection Strength				
Ultimate Strength, T_{ult} (lbs/ft)	4796	7811	9866	11990
$1/CR_u$ ($T_{ult-geogrid} / T_{ult-connection}$)	1.15	1.15	1.15	1.15
Durability Reduction Factor, RF_D	1.1	1.1	1.1	1.1
Creep Reduction Factor, RF_{CR}	2.65	2.65	2.65	2.65
Connection Factor of Safety	1.5	1.5	1.5	1.5
Allowable Connection Design Load, T_{ac} (lb/ft)	954	1553	1962	2384
Percent Coverage, R_c (%)	50	50	50	50
Connection Design Load per Unit Width of Wall (lb/ft of wall)	477	776	981	1192

Table 3.5 RECON 24-INCH/Tensar input parameters for MSEW program and 75% Coverage.

PROPERTY	GEOGRID at 100% Coverage in Wall Fill and at 75% Connection Coverage			
	UX1400MSE	UX1500MSE	UX1600MSE	UX1700MSE
Soil Reinforcement Tensile Strength				
Ultimate Strength, T_{ult} (lbs/ft)	4796	7811	9866	11990
Durability Reduction Factor, RF_D	1.1	1.1	1.1	1.1
Installation Damage Reduction Factor, RF_{ID} , with gravelly sand backfill	1.15	1.10	1.10	1.10
Creep Reduction Factor, RF_{CR}	2.65	2.65	2.65	2.65
Long-Term Strength, T_{al} (lbs/ft)	1431	2436	3077	3739
Overall Factor of Safety	1.5	1.5	1.5	1.5
Allowable Design Load, T_a (lb/ft)	954	1624	2051	2493
Percent Coverage, R_c (%)	100	100	100	100
Design Load per Unit Width of Wall (lb/ft of wall)	954	1624	2051	2493
Connection Strength				
Ultimate Strength, T_{ult} (lbs/ft)	4796	7811	9866	11990
$1/CR_u$ ($T_{ult-geogrid} / T_{ult-connection}$)	1.15	1.15	1.15	1.15
Durability Reduction Factor, RF_D	1.1	1.1	1.1	1.1
Creep Reduction Factor, RF_{CR}	2.65	2.65	2.65	2.65
Connection Factor of Safety	1.5	1.5	1.5	1.5
Allowable Connection Design Load, T_{ac} (lb/ft)	954	1553	1962	2384
Percent Coverage, R_c (%)	75	75	75	75
Connection Design Load per Unit Width of Wall (lb/ft of wall)	716	1165	1472	1788
Geogrid – Soil Interaction				
Friction Angle Along Geogrid-Soil Interface, ρ	$2/3 \tan \phi = 2/3 \tan 34^\circ = 24.2^\circ$			
Pullout Resistance Factor, F^*	$0.5 \tan \phi$	$0.5 \tan \phi$		
Scale-Effect Correction Factor, α	1.0			