Carlisle Intensive Growth Media Analysis

Results on a dry weight basis unless specified otherwise

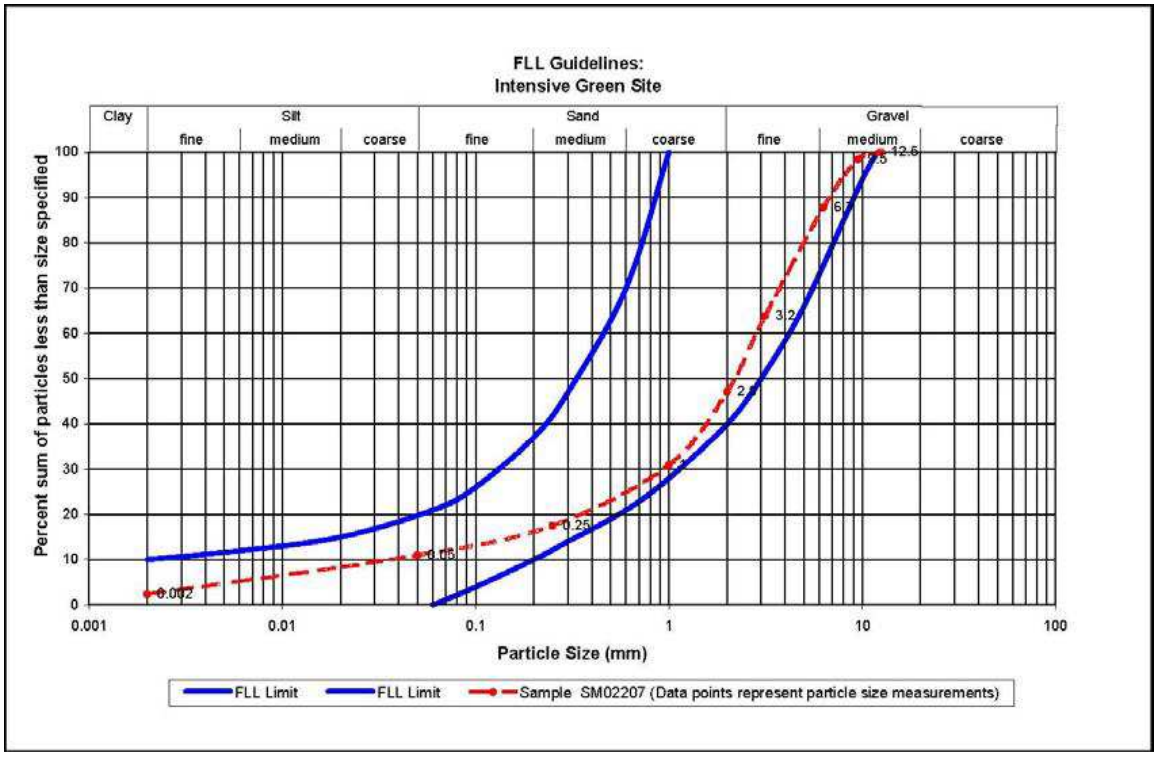
Analysis	Units	Result	FLL Reference Values
Particle Size Distribution (See accompanying report)			
< 0.05 mm (FLL[1] reference value based on < 0.06 mm)	mass %	11.0	< 20
Density Measurements			
Bulk Density (dry weight basis)	g/cm3	0.67	
Bulk Density (dry weight basis)	lb/ft3	41.64	
Bulk Density (at max. water-holding capacity)	g/cm3	1.19	
Bulk Density (at max. water-holding capacity)	lb/ft3	74.41	
Water/Air Measurements			
Moisture (as received basis)	mass %	16.9	
Total Pore Volume	Vol. %	74.1	
Maximum water-holding Capacity	Vol. %	53.2	> 45
Air-Filled Porosity (at max water-holding capacity)	Vol. %	20.9	> 10
Water permeability (saturated hydraulic conductivity)	cm/s	0.02	> 0.005
Water permeability (saturated hydraulic conductivity)	in/min	0.38	> 0.0118
pH and Salt Content			
pH (CaCl2)		6.1	5.5 - 8.0
Soluble salts (water, 1:10, m:v)	mmhos/cm	0.25	
Soluble salts (water, 1:10, m:v)	g (KCl)/L	1.07	< 2.5
Organic Measurements			
Organic matter content	mass %	9.3	< 12.0
Nutrients			
Phosphorus, P205 (CAL)	mg/L	85.0	< 200
Potassium, K2O (CAL)	mg/L	471.0	< 700
Magnesium, Mg (CaCl2)	mg/L	85.1	< 160
Nitrate + Ammonium (CaCl2)	mg/L	5.7	< 80

[1]Forschungsgesellschaft Landschaftsentiwicklung Landschaftsbau (FLL)
Guidelines for the Planning, Execution and Upkeep of Green-Roof Sites

Green Roof Media Particle Size Distribution

Particle Size Analysis		Sum of particles less than size specified			
Diameter -mm-	%		Diameter -mm-	Diameter -in-	Sieve size	% sum of particles
< 0.002	2.4	<	0.002	---	---	2.4
0.002-0.05	8.6	<	0.05	---	---	11.0
0.05-0.25	6.5	<	0.25	0.0098	60 mesh	17.5
0.25-1.0	13.4	<	1.0	0.0394	18 mesh	30.9
1.0-2.0	16.2	<	2.0	0.0787	10 mesh	47.1
2.0-3.2	16.8	<	3.2	0.125	1/8 inch	63.9
3.2-6.3	23.9	<	6.3	0.250	1/4 inch	87.8
6.3-9.5	10.6	<	9.5	0.375	3/8 inch	98.4
9.5-12.5	1.6	<	12.5	0.500	1/2 inch	100.0
> 12.5	0.0					

FLL[1] Particle Size Distribution Graph for Intensive Systems



[1] Forschungsgesellschaft Landschaftsentiwicklung Landschaftsbau (FLL). 2007. Guidelines for the Planning Execution and Upkeep of Green-Roof Sites