

**COVER PAGE**

**SM03503**



ANALYSIS FOR:			ADDITIONAL COPY TO:		
Bill Wolfe Norlite 628 S. Saratoga St. Cohoes NY 12047					
LAB ID	SAMPLE ID	SAMPLE TYPE	DATE SAMPLED	DATE RECEIVED	DATE COMPLETED
SM03503	Norlite No. 4 x 0		6/11/2010	6/15/2010	6/24/2010

### Green Roof Media Analysis

Results on dry weight basis unless specified otherwise

Analysis	Units	Result	FLL Guidelines for Single Course Extensive Sites <sup>1</sup>
<b>Particle Size Distribution (See accompanying report)</b>			
≤ 0.05 mm (Fill reference value based on < 0.06 mm)	mass %	7.2	≤ 10
<b>Denisty Measurements</b>			
Bulk Density (dry weight basis)	g/cm <sup>3</sup>	1.07	—
Bulk Density (dry weight basis)	lb/ft <sup>3</sup>	66.71	—
Bulk Density (at max. water-holding capacity)	g/cm <sup>3</sup>	1.49	—
Bulk Density (at max. water-holding capacity)	lb/ft <sup>3</sup>	93.01	—
<b>Water/Air Measurements</b>			
Moisture	mass %	12.8	—
Total Pore Volume <sup>2</sup>	Vol. %	51.6	—
Maximum water-holding Capacity	Vol. %	43.8	20 - 65
Air-Filled Porosity (at max water-holding capacity)	Vol. %	7.8	≥ 10
Water permeability (saturated hydraulic conductivity)	cm/s	0.019	0.1 - 0.67
Water permeability (saturated hydraulic conductivity)	in/min	0.443	2.36 - 15.8
<b>pH and Salt Content</b>			
pH (CaCl <sub>2</sub> )		10.6	6.0 - 8.5
Soluble salts (water, 1:10, m:v)	mmhos/cm	0.21	—
Soluble salts (water, 1:10, m:v)	g (KCl)/L	1.36	≤ 3.5
<b>Organic Measurements</b>			
Organic matter content	mass %	0.0	—
Organic matter content	g/L	0.0	≤ 40

GR02: Single Course Extensive

<sup>1</sup>Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau (FLL). 2008. Guidelines for the Planning Execution and Upkeep of Green-Roof Sites

<sup>2</sup>Total pore volume determined using measured particle density instead of assumed particle density as specified in FLL



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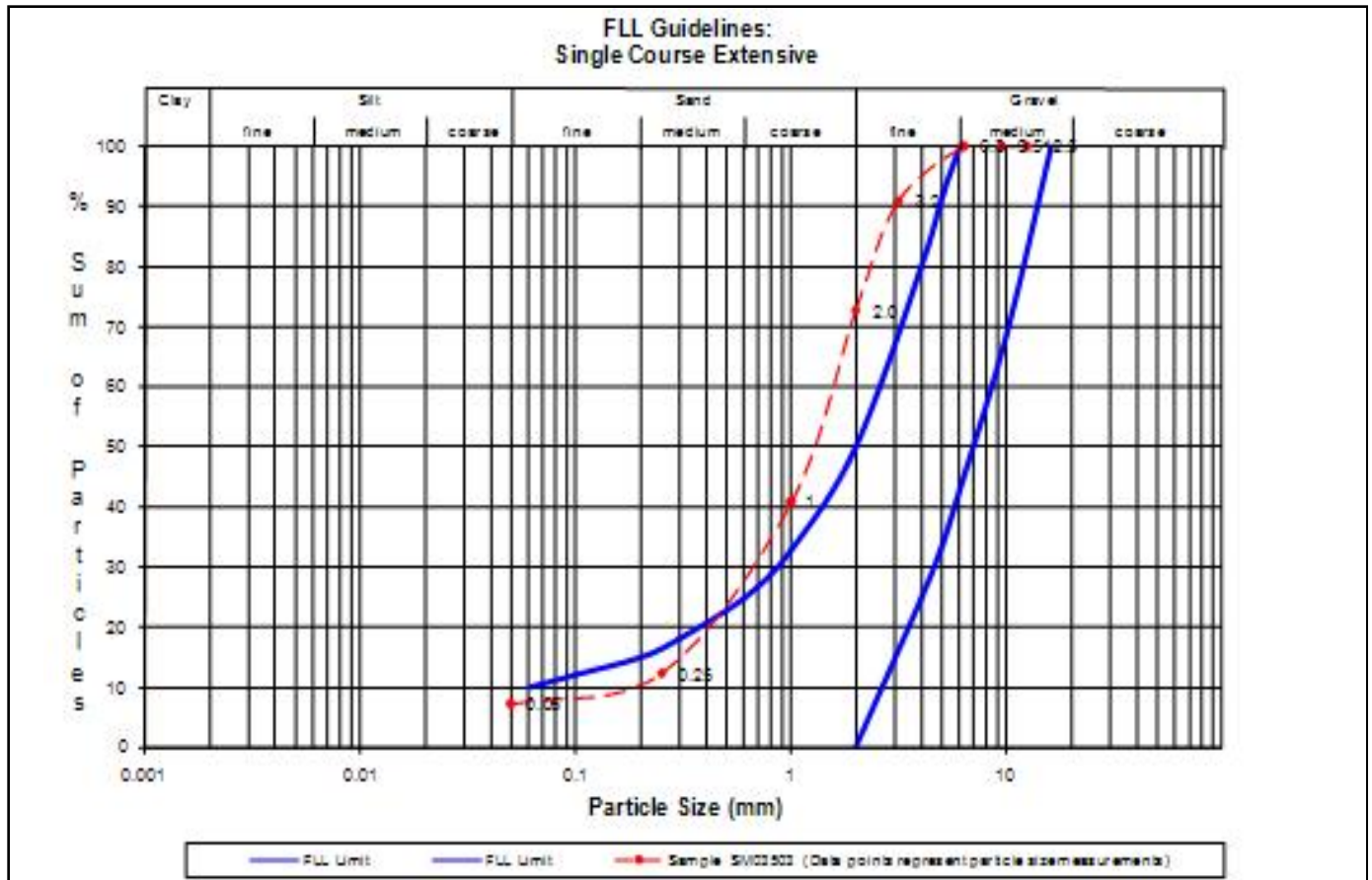
### Green Roof Media Particle Size Distribution

Particle Size Analysis		Sum of particles less than size specified			
Diameter -mm-	%	Diameter -mm-	Diameter -in-	Sieve size	% sum of particles
< 0.002	3.5	< 0.002	---	---	3.5
0.002-0.05	3.7	< 0.05	---	---	7.2
0.05-0.25	5.1	< 0.25	0.0098	60 mesh	12.3
0.25-1.0	28.5	< 1.0	0.0394	18 mesh	40.8
1.0-2.0	31.9	< 2.0	0.0787	10 mesh	72.7
2.0-3.2	18.2	< 3.2	0.125	1/8 inch	90.9
3.2-6.3	9.1	< 6.3	0.250	1/4 inch	100.0
6.3-9.5	0.0	< 9.5	0.375	3/8 inch	100.0
9.5-12.5	0.0	< 12.5	0.500	1/2 inch	100.0
> 12.5	0.0				



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### Green Roof Media FLL<sup>1</sup> Particle Size Distribution Graph for Single Course Extensive Systems



<sup>1</sup>Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau (FLL). 2008. Guidelines for the Planning Execution and Upkeep of Green-Roof Sites