



Turf & Soil Diagnostics

January 27, 2016

Chuck Friedrich
Carolina Stalite Company
PO Box 1037
Salisbury, NC 28145

TSD File #16010035

Dear Mr. Friedrich:

Enclosed are the results of the Stalite Extensive Media (1/11/16) sample received by our laboratory on January 21, 2016. This sample was tested as received according to the appropriate green roof protocols.

The test indicated that this sample meets the FLL performance guidelines for extensive greening in single course and multi course construction.

The organic matter content meets the FLL multi course construction guidelines, but it is higher than FLL single course organic content maximum.

The particle size results meet FLL single course extensive construction guidelines, and the gradation is similar to the FLL multi course guidelines.

If you have any questions or are in need of further assistance, please contact us. Samples are generally kept on the premises for 45 days after report date. Thank you for using Turf & Soil Diagnostics, Inc.

Sincerely,

Sam Ferro
President

Page 1 of 2



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Carolina Stalite Company
 Chuck Friedrich
 P.O. Box 1037
 Salisbury, NC 28145



Date Received Jan-21-2016
 Date Reported Jan-27-2016
 Facility Product Development

Maximum Media Density for Dead Load Analysis of Green Roof Systems †

Lab ID#	Sample Name	Water Permeability (Saturated Hydraulic Conductivity)		Initial Media Density (Application Density)		Maximum Media Density (Saturated Density)		Maximum Media Water Retention (%)	Dry Media Density	
		(in/hr)	(mm/min)	(lb/ft ³)	(g/cm ³)	(lb/ft ³)	(g/cm ³)		(lb/ft ³)	(g/cm ³)
16010035-1	Stalite Extensive Media (1/11/16)	156.3	66.2	62.7	1.01	76.7	1.23	37	53.7	0.86
FLL Guidelines - Extensive Greening in Single Course Construction		141 - 945	60 - 400					20 - 65		
FLL Guidelines - Extensive Greening in Multi Course Construction		1.4 - 165	0.6 - 70					35 - 65		

Lab ID#	Sample Name	Initial Sample Wt. (Kg)	Sample Volume (m ³)	Initial Sample Height (cm)	Final Sample Height (cm)	Sample Wt. After Draining (Kg)	Total Pore Space (%)	Air-filled Porosity ^{††} (%)	pH ^{†††}	Electrical Conductivity mmhos/cm	Organic Matter ^{††} (%)
16010035-1	Stalite Extensive Media (1/11/16)	1.853	0.0018	10.2	10.2	2.3	56	19	6.8	0.2	5.9
FLL Guidelines - Extensive Greening in Single Course Construction								> 10	6.0 - 8.5	< 5	< 4
FLL Guidelines - Extensive Greening in Multi Course Construction								> 10	6.0 - 8.5	< 5	< 6.5

Particle Size Evaluation*

Lab ID#	Sample Name	% Sand 2.0 - 0.063 mm	% Silt 0.063-0.002 mm	% Clay < 0.002mm	% Passing US sieve (mm)					
					Gravel 3/8"	Gravel 1/8" (3.17)	Gravel 10 (2.0)	V. Coarse 18 (1.0)	Medium 60 (0.25)	V. Fine 230 (0.063)
16010035-1	Stalite Extensive Media (1/11/16)	21.0	5.2	1.8	79.5	46.1	28.0	16.3	9.5	6.7
FLL Guidelines - Extensive Greening in Single Course Construction			0 - 10 Combined		65 - 100	15 - 70	0 - 50	0 - 33	0 - 15	0 - 10
FLL Guidelines - Extensive Greening in Multi Course Construction			0 - 15 Combined		80 - 100	40 - 95	30 - 80	11 - 62	0 - 35	0 - 15

† ASTM E2399 ††At Maximum Media Density (Water-holding Capacity)

†††ASTM D4972 w CaCl₂ (not screened)

*ASTM F1632 Method B

**Ashed at 550° C (FLL Guidelines)

Samples were tested as received and comments pertain only to the samples shown.
 This report may not be reproduced in part, but only in full.
 Sample condition upon receipt was normal.
 Samples were received with a transmittal letter.

Reviewed by Sam Fero