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NORLITE CORPORATION C330 EVALUATION

STL File No. A14458x12

Report No. 006

March 27, 2015

Samples of Norlite were delivered to this laboratory for material analyses in accordance with Specifications ASTM C330 and C331. The test results are as follows:

AGGREGATE ANALYSIS

Sieve Size	% Passing (Passing Specification)					
	3/4 Norlite	3/8 Norlite	Norlite Block Mix	3/16 Norlite	4x0 Norlite	8x0 Norlite
1"	100 (100)	---	---	---	---	---
3/4"	100 (90 - 100)	---	---	---	---	---
1/2"	73.6	100 (100)	100 (100)	---	---	---
3/8"	29.8 (10 - 50)	95.9 (80 - 100)	95.9 (90 - 100)	100	100 (100)	100 (100)
#4	9.1 (0 - 15)	14.5 (5 - 40)	69.1 (65 - 90)	95.5	98.0 (85 - 100)	100 (85 - 100)
#8	6.1	1.7 (0 - 20)	55.1 (35 - 65)	28.7	69.9	93.1
#16	4.2	1.2 (0 - 10)	33.2	9.2	44.0 (40 - 80)	60.0 (40 - 80)
#30	3.2	1.0	18.9	6.3	27.8	34.9
#50	2.4	1.0	10.6 (10 - 25)	5.1	17.6 (10 - 35)	18.9 (10 - 35)
#100	1.8	0.8	6.0 (5 - 15)	3.9	11.5 (5 - 25)	10.3 (5 - 25)
#200	1.4 (0 - 10)	0.7 (0 - 10)	4.1 (0 - 10)	3.2	8.2	6.8

Fineness Modulus	6.70	5.84	4.11	4.51	3.31	2.83
Loose Unit Weight (Dry), pcf	42.8 (55 maximum)	43.0 (55 maximum)	57.5 (65 maximum)	47.2 (70 maximum)	51.4 (70 maximum)	56.2 (70 maximum)
Loose Unit Weight (Damp), pcf	45.5	44.3	58.5	50.7	53.8	53.2
Organic Impurities	---	---	Lighter than standard (Standard)	Lighter than standard (Standard)	Lighter than standard (Standard)	Lighter than standard (Standard)
% Loss, Sodium Sulfate Soundness (5 Cycles)	3.7	2.7	2.2	1.3	1.6	2.0
% Loss on Ignition (Dry Basis)	0.0 (5 maximum)	0.0 (5 maximum)	0.1 (5 maximum)	0.0 (5 maximum)	0.1 (5 maximum)	0.2 (5 maximum)
% Clay Lumps	0.1 (2 maximum)	0.1 (2 maximum)	0.0 (2 maximum)	0.0 (2 maximum)	0.0 (2 maximum)	0.0 (2 maximum)
Staining Index	0.0	0.0	0.0	0.0	0.0	0.0

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Description	3/4 Norlite and Concrete Sand	3/8 Norlite and Concrete Sand
Concrete Mix Proportions (Mix Design)		
Cement Type 1, lb	564	564
American Sand, lb (SSD)	1563	1555
3/4 Norlite, lb (DRY)	709	---
3/8 Norlite, lb (DRY)	---	700
BASF Micro Air, oz/cwt	0.25	0.25
Water, lb/gal	281/33.7	302/36.3
Slump, in	3.75	2.50
Air, %	5.00	6.00
Oven-Dry Weight (ASTM C567), pcf	109.2	110.2
Approximate Equilibrium Weight (ASTM C567), pcf	112.2	113.2
Measured Equilibrium Weight (ASTM C567), pcf	113.2	112.9
Specification, Maximum (28 days), pcf	115.00	115.00
Compressive Strength, psi		
7-Day Test	4,161	3,808
7-Day Test	4,006	4,169
7-Day Test	3,952	3,868
Average of 3 Tests	4,040	3,948
28-Day Test	4,940	5,088
28-Day Test	4,871	5,003
28-Day Test	4,703	5,027
Average of 3 Tests	4,838	5,039
Specification (Minimum), psi	4,000	4,000
56-Day Test	5,030	5,415
56-Day Test	5,015	5,302
56-Day Test	5,092	5,321
Average of 3 Tests	5,046	5,346
Tensile Splitting Strength (ASTM C496), psi		
28-Day Test	349	534
28-Day Test	394	406
28-Day Test	427	322
28-Day Test	439	329
28-Day Test	312	394
28-Day Test	493	408
28-Day Test	345	394
28-Day Test	423	382
Average of 8 Tests	398	396
Specification (Minimum), pcf	330	330
Modulus of Elasticity (ASTM C469)		
Average of 2 Cylinders	2,678,000	2,750,000
Shrinkage (ASTM C330), %		
35 Days (Specification: 0.07 Maximum)	- 0.022	- 0.022

These test results meet ASTM C330 specifications for lightweight aggregates. If you have any questions, please feel free to contact our office.

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SOLAR TESTING LABORATORIES, INC.



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