

Chicora Foundation Gas Displacement Mortar Analysis Data Sheet

Name: Virginia Lime Works Natural Cement **Sample No.:** 2005-8

Date: 8/19/05 **Origin of Sample:** Virginia Lime Works Natural Cement, 28 days set, 1:3 mix using ASTM C144 sand

Visual Description of sample (color, texture, hardness, inclusions, etc.):
pale yellow (2.5YR7/3); few visible inclusions; relatively smooth texture; somewhat hard

Mortar Analysis

Original weight of powdered sample (in g)	5.44
Weight of filter paper (in g)	2.25
Weight of filter paper + dry fines (in g)	2.61
Weight dry fines (in g)	0.36
Weight of dry sand (in g)	3.27
Gas Displacement (in ml)	30.00
Weight of lime (in g)	0.13
% of sand	60.11
% of fines	6.62
% of lime	2.48
% of acid solubles	30.79

Observations (dissolution of binder, color of liquid, reaction):
Immediate aggressive reaction, then changes to less reactive; yellowish liquid

Characterization of Sand:

Microscopic Examination:
sub-rounded; well sorted; almost all opaque quartz; occasional black specks, unidentified -- this sand is Hanson C-144 sand

		wt (gm)	%
wt. % finer than	4.75mm	0.00	0
	2.36mm	0.00	0
	1.18mm	0.06	1.834862
	600µm	0.14	4.281346
	300µm	1.69	51.68196
	150µm	0.99	30.27523
	75µm	0.37	11.31498
	53µm	0.02	0.611621
	38µm	0.00	0
Total sand weight		3.27	

Munsell Color(s) of Sand: very pale brown (10YR8/3)

