Chicora Foundation Gas Displacement Mortar Analysis Data Sheet

Name: Chappell, Allen University

Sample No.: 12-001

Date: 4/3/12

Origin of Sample: Chappell Administrative Bldg, Allen University, 1925

Visual Description of sample (color, texture, hardness, inclusions, etc.):
Friable, sandy mortar that when damp is a very pale brown (10YR 7/3). The mortar contains abundant quartz and breaks with minor difficulty.

Mortar Analysis

Original weight of powdered sample (in g)	18.43
Weight of filter paper (in g)	1.22
Weight of filter paper + dry fines (in g)	1.31
Weight dry fines (in g)	0.09
Weight of dry sand (in g)	12.33
Gas Displacement (in ml)	107.00
Weight of lime (in g)	0.48
% of sand	66.90
% of fines	0.49
% of lime	2.61
% of acid solubles	30.00

Observations (dissolution of binder, color of liquid, reaction):
Immediate, very aggressive reaction; turned liquid dark yellow with much gas emitted immediately. Reaction stayed aggressive for several minutes; less aggressive reaction continued for 10 minutes.

Characterization of Sand:

Microscopic Examination:
Subangular to subrounded grains dominated by medium to fine clear to white tquartz grains; occasional fragments of yellow and gray sand materials.

Munsell Color(s) of Sand: 10YR 5/2, very pale orange

		wt (gm)	%
wt./% finer than	4.75mm	0.00	0.00
	2.36mm	0.03	0.24
	1.18mm	0.51	4.14
	600µm	1.89	15.33
	300µm	6.35	51.50
	150µm	2.64	21.41
	75µm	0.87	7.06
	53µm	0.04	0.32
	38µm	0.00	0.00
Total sand weight		12.33	

50x