

Chicora Foundation Gas Displacement Mortar Analysis Data Sheet

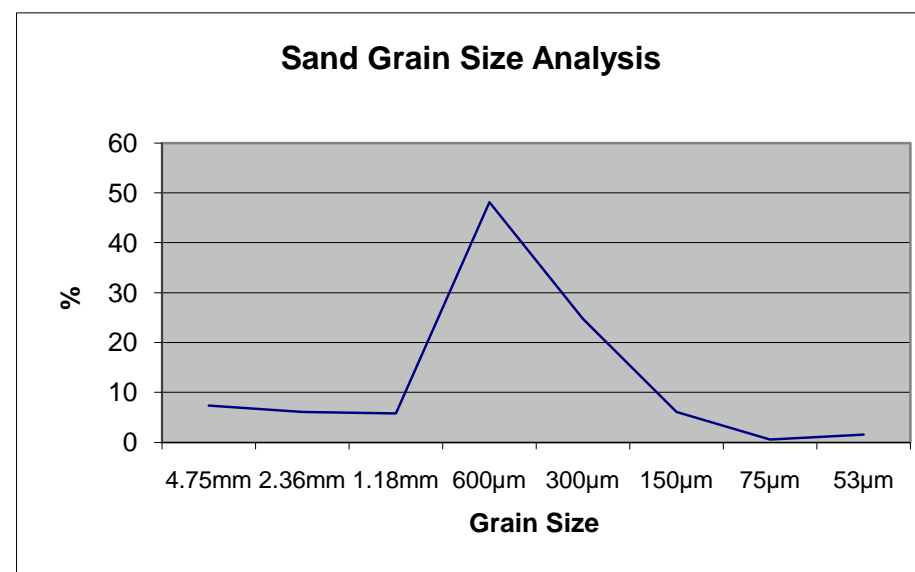
Name: Original Mortar, S.V. Arnold Tomb
Sample No.: 2010-03
Date: 8/12/10
Origin of Sample: Elm Street Cemetery, Braintree, MA

Visual Description of sample (color, texture, hardness, inclusions, etc.):

Pale brown (10YR6/3); hard, but somewhat friable on interior. Few inclusions obvious with most being very small. Moderately smooth texture, has a somewhat chalky feel.

Mortar Analysis

Original weight of powdered sample (in g)	7.29
Weight of filter paper (in g)	0.90
Weight of filter paper + dry fines (in g)	2.26
Weight dry fines (in g)	1.36
Weight of dry sand (in g)	3.97
Gas Displacement (in ml)	178.00
Weight of lime (in g)	0.80
% of sand	54.46
% of fines	18.66
% of lime	10.97
% of acid solubles	15.92



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 20 minutes.

Characterization of Sand:

			wt (gm)	%
Microscopic Examination: Subrounded to angular; quartzite, unknown metavolcanic, quartz.	wt.-% finer than	4.75mm	0.00	0
		2.36mm	0.29	7.304786
		1.18mm	0.24	6.04534
		600µm	0.23	5.793451
		300µm	1.91	48.11083
		150µm	0.98	24.68514
		75µm	0.24	6.04534
		53µm	0.02	0.503778
		38µm	0.06	1.511335
		Total sand weight		3.97

Munsell Color(s) of Sand: pale brown (10YR6/3)