

Chicora Foundation Gas Displacement Mortar Analysis Data Sheet

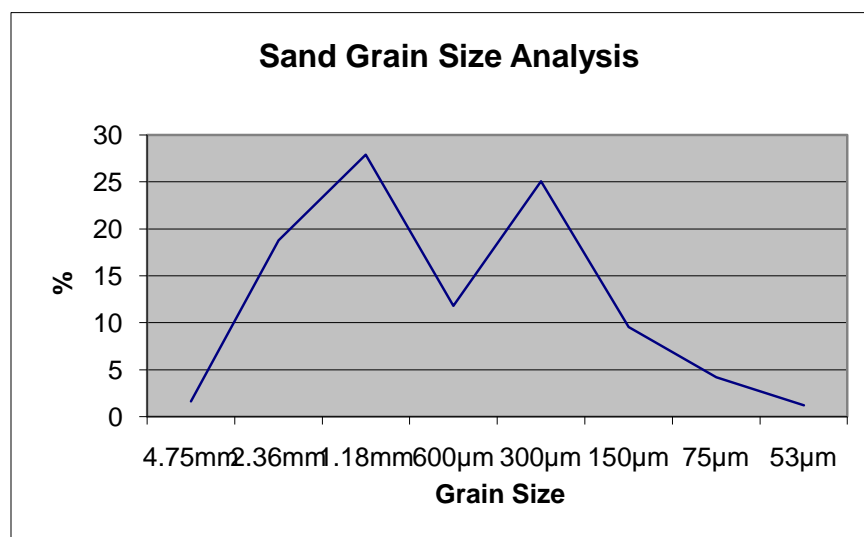
Name: Repointing Mortar, E. Thayer Tomb
Sample No.: 2010-02
Date: 8/12/10
Origin of Sample: Elm Street Cemetery, Braintree, MA

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

Gray (2.5YR5/1) with the appearance of a Portland cement. Moderate amounts of inclusions with few large items (largest was about 7.25 mm in diameter). Semi-rough texture with some large inclusions sitting on the surface. Easily broken, but not friable.

Mortar Analysis

Original weight of powdered sample (in g)	<u>10.00</u>
Weight of filter paper (in g)	<u>0.89</u>
Weight of filter paper + dry fines (in g)	<u>2.12</u>
Weight dry fines (in g)	<u>1.23</u>
Weight of dry sand (in g)	<u>6.71</u>
Gas Displacement (in ml)	<u>0.13</u>
Weight of lime (in g)	<u>0.00</u>
% of sand	<u>67.10</u>
% of fines	<u>12.30</u>
% of lime	<u>0.01</u>
% of acid solubles	<u>20.59</u>



Observations (dissolution of binder, color of liquid, reaction):

Not immediately aggressive; liquid turned a dark green. Reaction relatively short-lived with isolated bubbles for an additional 10 minutes.

Characterization of Sand:

	wt./% finer than	wt (gm) %	
		wt (gm)	%
Microscopic Examination: Subrounded to angular; quartz, quartzite, mica.	4.75mm	0.11	1.639344
	2.36mm	1.26	18.77794
	1.18mm	1.87	27.86885
	600µm	0.79	11.77347
	300µm	1.68	25.03726
	150µm	0.64	9.538003
	75µm	0.28	4.172876
	53µm	0.08	1.19225
	38µm	0.00	0
Total sand weight		<u>6.71</u>	

Munsell Color(s) of Sand: gray (2.5YR5/1)