

Chicora Foundation Gas Displacement Mortar Analysis Data Sheet

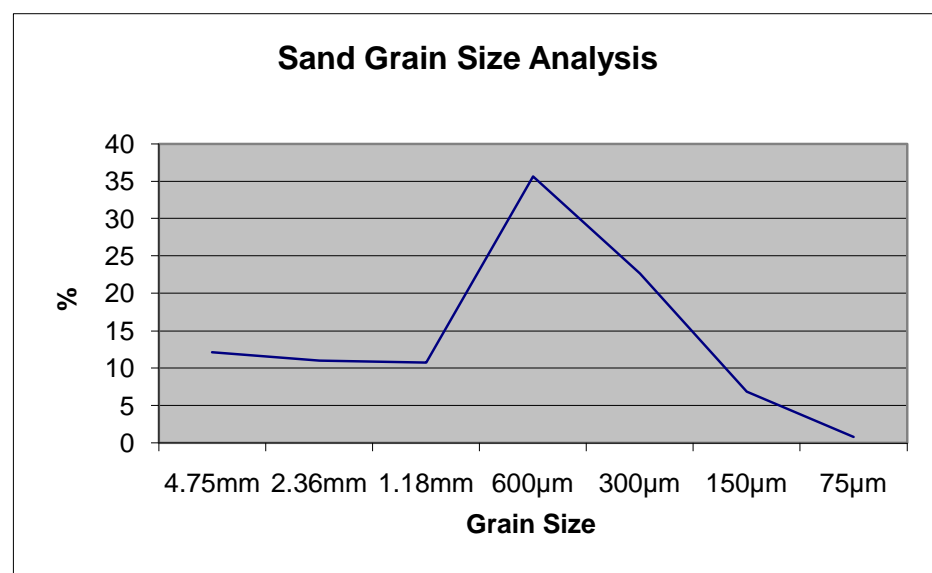
Name: Repointing Mortar, S.V. Arnold Tomb
Sample No.: 2010-01
Date: 8/12/10
Origin of Sample: Elm Street Cemetery, Braintree, MA

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

Light brownish gray (10YR6/2) mortar. Very hard. Many inclusions of various sizes easily visible to the naked eye. Rough texture with some of the large inclusions sitting on the surface, suggesting that mortar has eroded from around the inclusions.

Mortar Analysis

Original weight of powdered sample (in g)	<u>5.60</u>
Weight of filter paper (in g)	<u>0.89</u>
Weight of filter paper + dry fines (in g)	<u>1.40</u>
Weight dry fines (in g)	<u>0.51</u>
Weight of dry sand (in g)	<u>3.62</u>
Gas Displacement (in ml)	<u>0.10</u>
Weight of lime (in g)	<u>0.00</u>
% of sand	<u>64.64</u>
% of fines	<u>9.11</u>
% of lime	<u>0.01</u>
% of acid solubles	<u>26.24</u>



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

Immediate aggressive reaction turning the liquid yellow, turning less aggressive and lasting nearly 15 minutes.

Characterization of Sand:

Microscopic Examination:

Subrounded to angular; mostly quartzite, some darker stone, including black inclusions. Some mica.

wt./% finer than		wt (gm)	%
4.75mm		0.00	0
2.36mm		0.44	12.1547
1.18mm		0.40	11.04972
600µm		0.39	10.77348
300µm		1.29	35.63536
150µm		0.82	22.65193
75µm		0.25	6.906077
53µm		0.03	0.828729
38µm		0.00	0
Total sand weight		<u>3.62</u>	

Munsell Color(s) of Sand: light brownish gray (10YR6/2)