

VIRGINIA LIME WORKS BASIC MORTAR ANALYSIS

Analysis Guidelines (Not conforming to ASTM 1324-03)

- A. Retrieve Samples
 - 1. Original Material-compare and observe other areas to be sure that you have retrieved 1st period mortar
 - 2. Compare period sample with interior sample, sometimes, interior to be a much poorer grade of mortar
 - 3. Sample from behind the exterior face. Make sure this is the same from the interior. This will provide a protected and uncontaminated sample. When matching mortar this protected sample is the one to match by so as the mortar ages and weathers it will come about to a closer match.

- B. Heat Samples
 - 1. Releases moisture if there is any present.

- C. Weigh Samples (approximately 20 grams)
 - 1. Determine amount for testing
 - 2. Pour into a beaker
 - 3. Record weight of filter paper to be used

- D. Crumble Sample
 - 1. Do not pulverize

- E. Add Acid
 - 1. diluted: 4 parts water, 1 part hydrochloric acid
 - 2. stir and let stand

- F. Dilute
 - 1. after reaction ceases add water (if not enough water is added the paper will disintegrate)

- G. Drain off Fines
 - 1. Suspended particles
 - 2. stir continuously
 - 3. pour onto filter paper

- H. Rinse out sand
 - 1. pour onto filter paper

- I. Let dry thoroughly
 - 1. heat if necessary

- J. Weigh Sands and Fines separately
 - 1. deduct filter paper weight
 - 2. determine weight of soluble material
 - 3. determine % of fines

- K. Screen sand through sieve (if required)
 - 1. record weight, of each size/particle.

- L. Record Color of Fines
 - 1. Munsell Color Chart

- M. Report Preparation and Submittal