

3145 STATE ROAD
 TELFORD, PA 18969

215-536-6706

SALES@LIMEWORKS.US

LW LAB USE ONLY

Date Received _____

Technician _____

Date of Initial Call Back _____

Date Simulation and/or Report Sent _____

PAYMENT STATUS

Credit Card Check

Date Received _____

OBSERVATIONS

Sounding:

Portland Lime

Hardness:

Portland Lime

Reacts with White Vinegar:

Yes No

APPEARANCE

Material _____

Color _____

Soiling _____

Organic Growth _____

Deterioration _____

APPLICATION

Location _____

Thickness _____

Installation Method _____

RECOMMENDATIONS

Ecologic™ Mortar/Plaster

Lithomex/Step/Cast

Waterglass/Mineral Coating

Stock Material ID _____

Custom Material ID _____

OBSERVATION, SIMULATION & MORTAR ANALYSIS REQUEST FORM

SERVICE REQUESTED

Free Observation of Sample
 \$0

Custom Color Simulation
 \$150

Historic Mortar Analysis
 \$500

Instrumental Analysis (*Discuss with Lab Manager*) \$2,500+

Petrographic Mineralogical Analysis

XRD Compositional Analysis

XRF Elemental/Chemical Analysis

SEM Evaluation/Inspection

PROJECT INFORMATION

1. Type of sample submitted:

- | | |
|----------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Mortar | <input type="checkbox"/> Plaster Basecoat |
| <input type="checkbox"/> Stucco/Render | <input type="checkbox"/> Plaster Finish Coat |
| <input type="checkbox"/> Stone | <input type="checkbox"/> Terracotta |
| <input type="checkbox"/> Brick | <input type="checkbox"/> Mineral Coating |
| <input type="checkbox"/> Cast Concrete | <input type="checkbox"/> Paint Chip # |
| <input type="checkbox"/> Other _____ | |

2. Was the sample and/or masonry structure recently cleaned?

Yes No

3. Is there a plan to clean the masonry?

Yes No

4. Would you like a color simulation of:

- Weathered face of the sample.
 Weathered sample cleaned.
 Clean break of the sample interior.

5. The sample was collected from:

- Bedding mortar (*1.5" or deeper into the joint*).
 Pointing mortar (*less than 1.5" from the surface of the joint*).

6. Approximate width of the existing mortar joints (*if applicable*):

- 1/4" or less
 1/4" to 3/8"
 3/8" or more

7. Are you performing a full repoint of the masonry structure?

Yes No

8. Approximate year the masonry structure was built: _____

9. What is the location of the repair?

CONTACT INFORMATION

Business Name _____

Contact Name _____

Street _____

City _____

State _____

Zip Code _____

Phone _____

Email Address _____

Project Name _____

Project Consulting Conservator or Architect & Firm _____

Project Address _____

City _____

State _____

Zip Code _____

Please Return My Mortar Sample

Date Form Completed _____

Ship Simulation to A Different Address:

Business

Residence

Street _____

City _____

State _____

Zip Code _____

INSTRUCTIONS

I. Free Mortar Observation

The free initial observation (based on sounding, hardness, and reaction to white vinegar) may include a determination if the sample material is composed of Portland cement or lime and a recommendation as to which of our stock materials most closely matches the sample. A technical support specialist will call to discuss your project if additional information is needed.

II. Color Simulation

Custom color simulations can be performed for St. Astier Lime Paint, Ecologic™ Mortar, TOPCOAT™ plaster and stucco, Lithomex, Potassium Silicate Paint, and Colorwash Stain. An engineered custom blend, based on St. Astier Natural Hydraulic Lime (NHL), will be produced to simulate the color and texture of your sample. After the color simulation process is completed, you'll receive a cured tile and approximately 2 pounds of the sample mix for mock-up, sample installation purposes, and final verification. Upon approval of the custom blend, orders can be made in quantities of quarts; gallons; standard weights held in 5 gallon buckets; or palletized bags of plaster, stucco, or mortar.

\$150 per sample. Payment is required before beginning any services. A technical support specialist will call to discuss your project if additional information is needed.

III. Historic Mortar Analysis

In situations where it's necessary to understand the sand gradations or chemical makeup of the existing mortar to design an appropriate replacement, a historic mortar analysis can be performed. Samples are examined for their color, texture, hardness, homogeneity, stability, relative porosity, and chemical composition. The aggregate is also analyzed to determine its color, shape, and particle size and distribution.

\$500 per sample. Payment is required before beginning any services. A technical support specialist will call to discuss your project if additional information is needed.

IV. Project Information

For complex projects, you may want to include a few field photographs showing the condition of the structure, the nature of the problem, closeup views of the sample locations with the extracted mortar, and at least one wide angle view showing the overall area of the building where the samples were collected. Include the nature of the problem, when the problem was first noticed, and the location and environment of the material (indoor, outdoor, wall, floor, exposure to a freezing and thawing environment or a chemically aggressive environment). Other building documentation, such as plans, elevations, or hand drawings showing details and failure areas, are usually helpful in diagnosing mortar problems. For failure analysis, collect at least two mortar samples—one of the failure area and one of an area that is performing as expected. Attach extra sheets of paper as needed.

V. Collecting A Mortar Sample

Before an analysis can be performed, a mortar sample must be collected. Obtaining the right kind of specimen is critical to the outcome of the analysis. Be sure that any sample taken for examination is representative of the mortar to be analyzed. Walk around the building to identify alterations, additions, and the appropriate location for sampling. It's very important that the correct mortar is extracted where multiple mortars have been incorporated into the building envelope or where the same mortar was used but varies from each side of the building. For example, there may be a soft bedding mortar and a harder and/or colored pointing mortar. Additionally, if one kind of mortar was used on the common bricks on the sides of the building, the mortar might not be a good match for the ornate bricks used for the front of the structure. To avoid damaging the structure, collect the mortar sample from an obscure but representative location.

If a historic mortar match is needed, the mortar sample must come from the original historic building, not from a later addition. Historic buildings may also have newer mortars that were applied on top of the historic mortar. If the newer mortar is to be analyzed, it is critical to get good samples of the top mortar. If you want to know about the historic mortar underneath the newer top mortar, remove the top mortar in the sampling area. Follow best practices when collecting and submitting mortar samples. Solid pieces of mortar, approximately palm-sized and about $\frac{3}{8}$ " thick, are recommended.

VI. Packaging A Mortar Sample

Place the mortar sample in a plastic bag (such as a zip-lock bag) and seal shut. Label the outside of each bag with your name, sample name and/or project identification, sample location, and date of collection.

VII. Mailing Samples

Pack the bagged sample in a secure box or padded envelope. Attach the completed form to the sample bag. If multiple samples are sent in the same mailing package, complete a separate form for each sample and bag and label each sample individually. Check the appropriate box if you want your mortar sample returned. Send this completed form with your sample(s) to: LimeWorks.us, 3145 State Road, Telford, PA 18969.

VIII. Contact Information

Provide your name and contact information. If applicable, include the company name, project name, and the name and company of the consultant or architect working on the project. Provide an alternate address if you want the custom color simulation shipped to a different location. Use additional paper as needed.

IX. Payment Information

Payment is required in advance. Please enclose a check made payable to LimeWorks.us or call 215-536-6706 to pay by credit card or request an invoice.