



Mortar Examination Report

Project: USHG# 19-086 Trinity Church, Milwaukee, WI

Client: Mike Long, Triad Construction, 2077 S. 116th St. West Allis, WI 53227

Client Requirements: Package C mortar matching service

Mortar Dating: 1878

Our test indicated that original material appears to be a mix of natural hydraulic lime and sand.

In light of the findings and the intended use of the replacement material, U.S. Heritage Group recommends specifying a replication mortar formulation consisting of 1 part natural hydraulic lime and 2.5 parts sand.

This mix design is suggested for its permeability, adequate compressive strength and compatibility to the substrate.

Above recommendation was made in accordance with Preservation Brief 2:

"The new mortar must be as vapor permeable and as soft or softer (measured in compressive strength) than the historic mortar."

1-gallon of replacement mortar sample was produced sent to you via UPS Ground.

Enclosed please find sand gradation chart representing original aggregate extracted from the mortar sample.

Thank you for seeking our advice and entrusting these important details to U.S. Heritage Group. We look forward to providing you with a custom, ready-to-use, historically correct mortar for your project.

Respectfully,
U.S. Heritage Group, Inc.

Tai Olson
Laboratory Manager

Piotr Psuja PhD Eng.
Laboratory Manager

TYPE C :
PURE AND NATURAL HYDRAULIC
LIME MORTAR AND SAND -
NO ADDATIVES -
1 PART LIME: 2.5 PART SAND

Note: This information becomes a permanent record at the U.S. Heritage Group laboratories located at 3516 North Kostner Ave., Chicago, IL 60641. It can be referenced at any time in the future by the property owner named above or by an authorized mason contractor involved with the restoration work. When inquiring about this match please use the project number USHG# 19-086.