

SECTION 04 01 00

MAINTENANCE OF MASONRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Placement of joint mortar for masonry units. Specification includes limited surface preparation.
- B. Related Sections: Related sections include the following:
PLACE RELATED SECTIONS BELOW. EXAMPLES INCLUDE:
 - 1. Section 04 05 00 – Common Work Results for Masonry
 - a. Section 04 05 13 – Masonry Mortaring
 - b. Section 04 05 16 – Masonry Grouting
 - c. Section 04 05 21 – Masonry Strengthening
 - 2. Section 04 20 00 – Unit Masonry
 - a. Section 04 21 00 – Clay Unit Masonry
 - 1) Section 04 21 13 – Brick Masonry
 - 2) Section 04 21 19 – Clay Tile Masonry
 - 3) Section 04 21 23 – Structural Clay Tile Masonry
 - 4) Section 04 21 29 – Terra Cotta Masonry
 - b. Section 04 22 00 – Concrete Unit Masonry
 - 1) Section 04 22 00.13 – Concrete Unit Veneer Masonry
 - 2) Section 04 22 00.16 – Surface-Bonded Concrete Unit Masonry
 - 3) Section 04 22 19 – Insulated Concrete Unit Masonry
 - 4) Section 04 22 23 – Architectural Concrete Unit Masonry
 - 5) Section 04 22 26 – Autoclaved Aerated Concrete Unit Masonry
 - 6) Section 04 22 33 – Interlocking Concrete Unit Masonry
 - c. Section 04 26 00 – Single-Wythe Unit Masonry
 - 1) Section 04 26 13 – Masonry Veneer
 - d. Section 04 27 00 – Multiple-Wythe Unit Masonry
 - 1) Section 04 27 13 – Composite Unit Masonry
 - 2) Section 04 27 23 – Cavity Wall Unit Masonry
 - e. Section 04 28 00 – Concrete Form Masonry Units
 - 1) Section 04 28 13 – Dry Stacked, Concrete-Filled Masonry Units
 - 2) Section 04 28 23 – Mortar-Set, Concrete-Filled Masonry Units
 - f. Section 04 29 00 – Engineered Unit Masonry
 - 3. Section 04 40 00 – Stone Assemblies
 - a. Section 04 41 00 – Dry-Placed Stone

- b. Section 04 42 00 – Exterior Stone Cladding
- c. Section 04 43 00 – Stone Masonry
 - 1) Section 04 43 13 – Stone Masonry Veneer
- 4. Section 04 70 00 – Manufactured Masonry
 - a. Section 04 71 00 – Manufactured Brick Masonry
 - b. Section 04 72 00 – Cast Stone Masonry
 - c. Section 04 73 00 – Manufactured Stone Masonry

1.2 REFERENCES

- A. General: The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. Deutsches Institut für Normung (DIN), European Standard (EN), and International Organization for Standardization (ISO):
 - 1. DIN EN 998-1, manufacturing standard for mortar for masonry – Part 1: Rendering and plastering mortar.
- C. WTA, acronym for International Association for Science and Technology of Building Maintenance and Monuments Preservation, www.wta.de/en.
 - 1. WTA technical bulletin 3-11-97/D: Natural stone restoration according to WTA III: stone addition with restoration mortars or stone substitutes.

1.3 DEFINITIONS

- A. Joint Mortar—White cement based: Mortar applied between unit masonry.

1.4 SYSTEM DESCRIPTION

- A. A ready-to-use bagged mortar in standard or custom-matched colors, made of white cement and aggregates designed for historic and modern masonry joints and repointing.

1.5 SUBMITTALS

- A. Product Data: Submit product data showing material proposed. Submit sufficient information to determine compliance with the Drawings and Specifications. Provide published documentation describing materials, characteristics, and limitations.
- B. Samples: Submit samples for verification purposes, fabrication techniques and workmanship.
- C. Manufacturer's Instructions: Submit manufacturer's instructions including technical data sheets, material safety data sheets, mixing instructions, application requirements, special procedures, and conditions requiring special attention.
- D. LEED Submittals: Submittals that are required to comply with requirements for LEED certification include the following:
 - 1. Low Emitting Materials: Submit certification by the manufacturer confirming that products (i.e., adhesives, sealants, paints, coatings, etc.) meet or exceed the volatile organic compound (VOC) limits set by specific agencies or other requirements. Clearly state VOC limits in the submittal.

1.6 QUALITY ASSURANCE

- A. Qualifications:

1. Manufacturer Qualifications: Provide evidence that Manufacturer is a firm engaged in the manufacture of silicate stains of types required, and whose products have been in satisfactory use in similar service for a minimum of fifteen years.
 2. Applicator Qualifications: *(BELOW, KEEP ONE AND DELETE THE OTHER)*
 - a. Provide evidence Applicator is a firm having a minimum of three years of successful application experience with projects similar in type and scope to that required for this Project, and having passed a product certification training course provided by the manufacturer prior to the execution of this unit of work.
 - b. Provide evidence Applicator is a firm having successful application of products within this specification with at least one project in the last 18 months similar in type and scope to that required for this Project, and having passed a product certification training course provided by the manufacturer prior to the execution of this unit of work.
- B. Mock ups:
1. Prior to application of the work, fabricate and erect mock ups for each type of finish and application to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution.
 2. Build mock ups to comply with the following requirements using materials indicated for final unit of work.
 3. Locate mock ups as directed by the Architect.
 4. Demonstrate the proposed range of aesthetic effects and workmanship to be expected in the completed work.
 - a. Obtain the Architect's acceptance of mock ups before start of final unit of work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project site in supplier's or manufacturer's original wrappings and containers, labeled with manufacturer's name, material and product brand name, and lot number, if any.
- B. Store materials in their original undamaged packages and containers inside a well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.

1.8 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Substrate and ambient air temperature must not fall below 41 °F (5 °C).
 2. Protect surfaces from rain and wind during application.

1.9 WARRANTY

- A. Provide manufacturer's written product warranty.
 1. Warranty period from date of Substantial Completion is 1 year.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design:
 1. Items specified are to establish a standard of quality for design, function, materials, compatibility, performance, warranty, and appearance.
 2. Equivalent products by listed manufacturers are acceptable.

3. The Architect is the sole judge of the basis of what is equivalent.

B. Listed Manufacturers

1. KEIM Mineral Coatings of America, Inc., 10615 Texland Blvd. #600, Charlotte, North Carolina 28273. Telephone 704-588-4811. Email keim-info@keim.com.

2.2 MATERIALS

A. Joint Mortar:

1. Dry bagged joint replacement mortar with white cement and hydraulic binders.
2. May be pigmented to match existing mortar or masonry with inorganic pigments.
3. Complies with WTA 3-11-97/D.
4. Compressive strength: 1160 PSI per
5. Bending tensile strength: 435 PSI
6. Modulus of elasticity: 1.3 PSI
7. Thermal dilatation: 0.0000001 inch per 1° Kelvin
8. Hygric dilatation: 0.7 millimeter (0.02756 inch) per meter (39.37 inches)
9. No VOC.
10. Basis of Design: "KEIM Restauro Fuge", KEIM Mineral Coatings of America, Inc.

2.3 EQUIPMENT

A. Tools:

1. Joint Mortar: Typical mortar mixing equipment, mason and stone mason tools. Clean up with water.

2.4 FINISHES

A. Joint Mortar: Tool as directed by Architect.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Confirm by examination the areas and conditions under which the work is to be applied for compliance with manufacturer's instructions. Do not proceed with the work until unsatisfactory conditions have been corrected.
1. Verify substrate is secure, sound, dry, and absorbent, and free of dirt, grease, salts, oil-based paints, release agents, curing agents, and other bond breakers.
 2. Verify substrate has no pretreatments or priming materials applied unless such conditions are approved by manufacturer.
 3. Beginning of the work shall indicate acceptance of the areas and conditions as satisfactory by the Applicator.

3.2 PREPARATION

A. Protection:

1. Lay ground cloths and take measures as necessary to protect surfaces subject to contact by products specified by this Section.

3.3 APPLICATION

- A. Conform to reviewed product data, manufacturer's written instructions, and provisions of the Contract Documents.
- B. Joint Mortar:
 - 1. Remove loose or broken joint material to a minimum depth of twice the joint width.
 - 2. Clean debris from joint surfaces.
 - 3. Pre-wet surfaces to ensure all contact areas are dampened.
 - 4. Mix mortar with approximately 1.2 gallons (4.5 liters) clean water to a 30 kg sack. Allow to rest 5 minutes after initial mixing to mature. Stir to relax mortar. Consistency should be similar to moist earth. Maintain consistency with water addition to prevent color variations.
 - 5. Re-wet surfaces, sponge off standing water.
 - 6. Place matured joint mortar retaining reveal appearance and tool surface as directed in section FINISHES. Remove excess mortar during setting time.

3.4 CLEANING

- A. Clean tools, spills, and accidental drips immediately with plenty of water.
- B. Leave applications clean and premises free from residue and debris from work of this Section.

END OF SECTION