

**SECTION 04 05 13  
MASONRY MORTARING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

Section specifies mortar materials and mixes.

**1.2 RELATED WORK:**

- A. Mortar used in Section:
  - 1. Section 04 05 16, MASONRY GROUTING.
  - 2. Section 04 20 00, UNIT MASONRY.

**1.3 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Certificates:
  - 1. Indicating that following items meet specifications:
    - a. Portland cement.
    - b. Masonry cement.
    - c. Hydrated lime.
    - d. Fine aggregate (sand).
- C. Manufacturer's Literature and Data:
  - 1. Cement, each kind.
  - 2. Hydrated lime.
  - 3. Admixtures.

**1.4 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver masonry materials in original sealed containers marked with name of manufacturer and identification of contents.
- B. Store masonry materials under waterproof covers on planking clear of ground, and protect damage from handling, dirt, stain, water and wind.

**1.5 APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
  - C40-04.....Organic Impurities in Fine Aggregates for  
Concrete
  - C91-05.....Masonry Cement
  - C109-07.....Compressive Strength of Hydraulic Cement Mortars  
(Using 2-in. or 50-MM Cube Specimens)
  - C144-04.....Aggregate for Masonry Mortar
  - C150-05.....Portland Cement

C207-06.....Hydrated Lime for Masonry Purposes  
C270-07.....Mortar for Unit Masonry  
C780-07.....Preconstruction and Construction Evaluation of  
Mortars for Plain and Reinforced Unit Masonry

**PART 2 - PRODUCTS**

**2.1 HYDRATED LIME**

A. ASTM C207, Type S.

**2.2 AGGREGATE FOR MASONRY MORTAR**

A. ASTM C144.

**2.4 MASONRY CEMENT**

A. ASTM C91. Type N, S, or M.

**2.5 PORTLAND CEMENT**

A. ASTM C150, Type I.

**2.6 WATER**

A. Potable, free of substances that are detrimental to mortar, masonry, and metal.

**2.7 MASONRY MORTAR**

A. Conform to ASTM C270.

B. Admixtures:

1. Do not use mortar admixtures, unless approved by the COTR (Contracting Officer's Technical Representative) with approval of the Contracting Officer.
2. Submit laboratory test report showing effect of proposed admixture on strength, water retention, and water repellency of mortar.
3. Do not use antifreeze compounds.

**PART 3 - EXECUTION**

**3.1 MIXING**

- A. Mix in a mechanically operated mortar mixer.
1. Mix mortar for at least three minutes but not more than five minutes.
- B. Measure ingredients by volume. Measure by the use of a container of known capacity.
- C. Mix water with dry ingredients in sufficient amount to provide a workable mixture which will adhere to vertical surfaces of masonry units.
- D. Mortar that has stiffened because of loss of water through evaporations:
1. Re-tempered by adding water to restore to proper consistency and workability.
  2. Discard mortar that has reached its initial set or has not been used within two hours.

**3.2 MORTAR USE LOCATION**

- A. Use Type S mortar for masonry containing vertical reinforcing bars (non-engineered).
- B. Use Type N mortar for other masonry work, except as otherwise specified.

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