

SECTION 04 05 16
MASONRY GROUTING

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. Section specifies grout materials and mixes.

1.2 RELATED WORK:

- A. Grout used in Section:
1. Section 04 20 00, UNIT MASONRY.
- B. Grout Color: none

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. Grout.
 - d. Hydrated lime.
 - e. Fine aggregate (sand).
 - F. Color admixture.
- C. Laboratory Test Reports:
1. Grout, each type.
 2. Admixtures.
- D. Manufacturer's Literature and Data:
1. Cement, each kind.
 2. Hydrated lime.
 3. Admixtures.
 4. Liquid acrylic resin.

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
C150-09.....	Portland Cement
C207-06.....	Hydrated Lime for Masonry Purposes
C404-07.....	Aggregate for Masonry Grout
C476-10.....	Grout for Masonry
C595-10.....	Blended Hydraulic Cement
C979-10.....	Pigments for Integrally Colored Concrete
C1019-11.....	Sampling and Testing Grout

PART 2 - PRODUCTS

2.1 HYDRATED LIME:

- A. ASTM C207, Type S.

2.2 AGGREGATE FOR MASONRY GROUT:

- A. ASTM C404, Size 8.

2.3 BLENDED HYDRAULIC CEMENT:

- A. ASTM C595, Type IS, IP.

2.4 MASONRY CEMENT:

- A. ASTM C91. Type N, S, or M.
- ### **2.5 PORTLAND CEMENT:**
- B. ASTM C150, Type I.

2.5 PORTLAND CEMENT:

- A. ASTM C150, Type I.

2.6 LIQUID ACRYLIC RESIN:

- A. A formulation of acrylic polymers and modifiers in liquid form designed for use as an additive for mortar to improve physical properties.

2.7 WATER:

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

2.8 GROUT:

- A. Conform to ASTM C476 except as specified.
- B. Grout type proportioned by volume as follows:
 1. Fine Grout:
 - a. Portland cement or blended hydraulic cement: one part.
 - b. Hydrated lime: 0 to 1/10 part.
 - c. Fine aggregate: 2-1/4 to three times sum of volumes of cement and lime used.
 2. Coarse Grout:
 - a. Portland cement or blended hydraulic cement: one part.
 - b. Hydrated lime: 0 to 1/10 part.

- c. Fine aggregate: 2-1/4 to three times sum of volumes of cement and lime used.
 - d. Coarse aggregate: one to two times sum of volumes of cement and lime used.
3. Sum of volumes of fine and coarse aggregates: Do not exceed four times sum of volumes of cement and lime used.

2.9 COLOR ADMIXTURE:

- A. Not used.

PART 3 - EXECUTION

3.1 MIXING:

- A. Mix in a mechanically operated grout mixer.
 - 1. Mix grout for at least five minutes.
- B. Measure ingredients by volume. Measure by the use of a container of known capacity.
- C. Mix water with grout dry ingredients in sufficient amount to bring grout mixture to a pouring consistency.

3.2 GROUT USE LOCATIONS:

- A. Use fine grout for filling wall cavities and cells of concrete masonry units where the smallest dimension is 50 mm (2 inches) or less.
- B. Use either fine grout or coarse grout for filling wall cavities and cells of concrete masonry units where the smallest dimension is greater than 50 mm (2 inches).
- C. Do not use grout for filling bond beam or lintel units.

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