

Section 04061

MORTAR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Mortar and grout for masonry.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

1. No separate payment will be made for mortar under this Section. Include payment in Lump Sum for building or structure with price breakdown included in Schedule of Values.
2. Refer to Section 01270 - Measurement and Payment and Section 01292- Schedule of Values.

- B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. ASTM C 143 - Standard Testing Method for Slump of Hydraulic Cement Concrete
- B. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
- C. ASTM C 150 - Standard Specification for Portland Cement.
- D. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- E. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.
- F. ASTM C 404 - Standard Specification for Aggregates for Masonry Grout.
- G. ASTM C 476 - Standard Specification for Grout for Masonry.
- H. ASTM C 780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.

- I. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Include design mix, indicate Property Method used, required environmental conditions, and admixture limitations.
- C. Samples: Submit two ribbons of each mortar color, illustrating color and color range.
- D. Submit test reports under provisions of Section 01450 - Contractor's Quality Control.
- E. Submit test reports on mortar indicating conformance to ASTM C 270.
- F. Submit test reports on grout indicating conformance to ASTM C 476.
- G. Submit manufacturer's certificate under provisions of Section 01450 - Contractor's Quality Control, that products meet or exceed specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site and store and protect products under provisions of Section 01610 - Basic Product Requirements.
- B. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air temperatures to minimum 50 degrees F prior to, during, and 48 hours after completion of masonry work.

1.07 MIX TESTS

- A. Test mortar and grout in accordance with Section 01454 - Testing Laboratory Services.
- B. Testing of Mortar Mix: Test in accordance with ASTM C 780. Test mortar mix for compressive strength, consistency, mortar aggregate ratio, water content, air content, and splitting tensile strength.
- C. Testing of Grout Mix: Test in accordance with ASTM C 109. Test grout mix for compressive strength and slump.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Portland Cement: ASTM C 150, Type I, white color.
- B. Masonry Cement: Not permitted.
- C. Mortar Aggregate: ASTM C 144, standard masonry type. Grading and color suitable for type of masonry, one source for entire project. (Not less than 5 percent shall pass No. 100 sieve).
- D. Hydrated Lime: ASTM C 207, Type S.
- E. Grout Aggregate: ASTM C 404.
- F. Water: Clean and potable.

2.02 MORTAR COLOR

- A. Mortar Color: Mineral oxide pigment; color; to be selected by City Engineer from manufacturer's samples.

2.03 ADMIXTURES

- A. Antifreeze: Antifreeze admixtures will not be permitted.
- B. Accelerator: Accelerator may be used only with approval of City Engineer.

2.04 MORTAR

- A. Mortar for Load Bearing Walls and Partitions: ASTM C 270, Type S utilizing Property Method to achieve 1800 psi strength.
- B. Mortar for Non-load Bearing Walls and Partitions: ASTM C 270, Type S utilizing the Property Method to achieve 1800 psi strength.
- C. Mortar for Masonry Below Grade or in Contact with Earth: ASTM C 270, Type M utilizing the Property Method to achieve 2500 psi strength.
- D. Pointing Mortar: ASTM C 270, Type N, using the Property Method to achieve 750 psi strength.

2.05 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C 270 to achieve strengths noted in Paragraph 2.04.
- B. Add mortar color and admixtures in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.
- C. Do not use anti-freeze compounds to lower freezing point of mortar.
- D. If water is lost by evaporation, retemper only within 2 hours of mixing.
- E. Use mortar within 2 hours after mixing at temperatures of 80 degrees F, or 22 hours at temperatures under 50 degrees F.

2.06 GROUT

- A. Bond Beams, Lintels, and Other Areas to be Grouted Solid: 3000 psi strength at 28 days; 7 to 8 inches slump per ASTM C 143; mixed in accordance with ASTM C 476, Fine Grout.

2.07 GROUT MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C 476, Fine Grout.
- B. Add admixtures in accordance with manufacturer's instructions. Provide uniformity of mix.
- C. Do not use anti-freeze compounds to lower freezing point of grout.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Request inspection of spaces to be grouted.

3.02 PREPARATION

- A. Apply bonding agent to existing concrete surfaces.
- B. Plug clean out holes with masonry units to prevent leakage of grout materials. Brace masonry for wet grout pressure.

3.03 INSTALLATION

- A. Install mortar and grout in accordance with manufacturer's instructions.
- B. Work grout into masonry cores and cavities to eliminate voids.
- C. Do not displace reinforcement while placing grout.
- D. Remove grout spaces of excess mortar.

END OF SECTION