

SECTION 04060**MORTAR****PART 1 - GENERAL****1.01 SCOPE OF WORK:**

- A. Mortar shall conform to the property or proportion requirements of ASTM C270, latest edition. Non-load bearing and load-bearing concrete masonry shall be laid in mortar Type M.
- B. All concrete work shall be constructed in accordance with all of the applicable provisions of Section 03300.

1.02 STANDARDS

- A. National Concrete Masonry Association Specifications for the Design and Construction of Load Bearing Concrete Masonry.
- B. American National Standard Building Code requirements for reinforced masonry.
- C. National Concrete Masonry Association, T.E.K. Series.
- D. South Florida Building Code, current edition.

1.03 RELATED SECTIONS

- A. Section 02536 - Precast Manholes and Covers.
- B. Section 03300 - Cast-In-Place Concrete, Reinforcing and Formwork.

1.04 SUBMITTALS

- A. The Engineer of Record shall be supplied with shop drawings consisting of product data and samples. Include design mix, required environmental conditions, and admixture limitations.
- B. Submit reports to the Engineer of Record on mortar indicating conformance of mortar to property requirements of ASTM C270

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 530 and ACI 530.1.
- B. Where references are made to standards, the latest edition of the listed standard shall apply.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products in conformance with manufacturer's recommendations
- B. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

PART 2 - DOCUMENTS**2.01 MATERIALS**

- A. Portland cement: ASTM C150. Portland Cement shall be Type II where exposed to sewage. Otherwise, Type I shall be used.
- B. Masonry cement: ASTM C91, Type II, white or gray.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Sand: ASTM C144, sharp, natural sand mined in fresh water, hard durable grains, free of soft, flaky particles, salt, alkalis and organic material. Salt water sand strictly prohibited.
- E. Water: Potable.
- F. Waterproofing additive: Omicron mortar-proofing as manufactured by the Master Builders Co.
- G. Mortar: Mortar for above ground masonry shall conform to ASTM Standard C270, latest edition, "Mortar for Unit Masonry" and the following requirements:
 - 1) Use no antifreeze ingredient in the mortar.
 - 2) Color shall be natural.
 - 3) Submit data indicating proportions and materials to be used.

PART 3 - EXECUTION**3.01 PREPARATION & MIXING**

- A. Mortar for Masonry Walls and Partitions: Cement mortar mix for all unit masonry work shall be according to ASTM C270, Type M, 2500 psi minimum compressive strength at 28 days.
- B. Mortar For Glass Unit Masonry: ASTM C270, Type S, using the Property specification.

- C. Mortar Mix proportions:
- 1) One part Portland cement.
 - 2) One quarter part hydrated lime (Lime putty shall not exceed 10% of the cement used).
 - 3) 3 to 4 parts of damp loose sand.
 - 4) Water: Sufficient for workable mix. Retempering not permitted.
 - 5) Waterproofing additive: add to mix for all exterior walls. Use a waterproofing admix equal to "Omicron OM" by Master Builders or "Mortarite" by Lambco, or approved equal, in all mortar for exterior use if the masonry cement has not been water proofed by the addition of a waterproofing agent by the manufacturer. Proportion and use in accordance with the manufacturer's printed directions.
- D. Colors: natural.
- E. Mixing:
- 1) Measurement of materials shall be such that the specified proportions are controlled and accurately maintained.
 - 2) Initially, sand and cement shall be thoroughly dry mixed, hydrated lime then added to the mix and then water to obtain a proper working consistency. Materials shall be evenly distributed and dry as good workability will allow.
 - 3) Workability or consistency of mortar on the board shall be sufficiently wet to be worked under the trowel. Water for tempering shall be available on the scaffold at all times.
 - 4) Mortar which has begun to set or has stood for more than one hour shall be discarded and in no event shall an unbalanced or stale mix be retempered or used.
 - 5) Mix all cementitious materials and sand in mechanical batch mixer for minimum of 5 minutes. Adjust consistency of mortar to satisfaction of mason but add only as much water as is compatible with convenience in using mortar. If mortar begins to stiffen from evaporation or from absorption of part of mixing water, retemper mortar immediately by adding water, and remix mortar to restore it's workability. Re-temper only within two hours of mixing.
- 3.02 All mortar shall be used and placed in final position within two hours after mixing when air temperature is 80° F or higher and within three hours when air temperature is less than 80° F. Discard all mortar not used within these limits.

END OF SECTION