Division 4
Section 04200

Sample Concrete Masonry Specifications

PART 1 – GENERAL

1.1 Related Work Specified Elsewhere
A. General & Supplementary Conditions, Special Requirements.
B. Concrete Reinforcement: Section 03200.
C. Mortars and Grout: Section 04100.
D. Masonry Reinforcement & Accessories: Section 04150.
E. Metal Fabrications: Section 05500.
F. Insulation: Section 07200.
G. Flashing & Sheet Metal: Section 07600.
H. Sealants & Caulking: Section 07920.
I. Hollow Metal Doors & Frames: Section 08100.

1.2 Referenced Documents
A. ASTM A 153: Zinc Coating (Hot Dip) on Iron and Steel Hardware.
B. ASTM A 615: Deformed and Plain Billet- Steel Bars for Concrete Reinforcement.
C. ASTM A 951: Masonry Joint Reinforcement.
D. ASTM C 33: Concrete Aggregates.
E. ASTM C 90: Load bearing Concrete Masonry Units.
F. ASTM C 140: Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
H. ASTM C 331: Lightweight Aggregates for Concrete Masonry Units.
I. ASTM C 476: Grout for Masonry.
K. ASTM D 2287 Non-rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds.

1.3 Submittals
A. Product Data for CMU including Test Report per ASTM C 90.
B. Sample Boards representing color and texture.

1.4 Quality Assurance
A. Construct 4’ x 4’ Sample Panel as directed. Panel to represent range of color and texture and to remain in place until completion of Project.
B. Obtain all CMU from a single manufacturer: Boral Concrete Products. Compressive strength of masonry $f'_{m} = 1500$ psi.

1.5 Delivery, Storage and Handling
A. Masonry Contractor responsible for acceptance of delivered CMU per ASTM C 90.
B. Protect CMU from precipitation or ground water, dust, mud or other contaminants. Store off ground.

1.6 Project Conditions
A. Do not apply construction loads that exceed the safe superimposed load-carrying capacity of the masonry and shores or braces, if used. Provide wind bracing.
B. Follow Cold Weather Construction procedures for ambient temperature below 40°F.
C. Follow Hot Weather Construction procedures for ambient temperature above 100°F or above 90°F with a wind velocity greater than eight miles per hour.

PART 2 – PRODUCTS

2.1 Mortar Materials
A. Provide Type S per ASTM C 270.
B. Provide pre-blended Boral™ Concrete Products color mortar assigned to match Custom Colored CMU.
C. Provide integral water-repellent mortar admix “Krete” by Krete Industries, or “Blocktite” by Euclid Chemical Company, for all exterior walls.

2.2 Grout Materials
Provide grout that conforms to the requirements of AS TM C 476. Do not use admixtures unless acceptable.

2.3 Concrete Masonry Units
A. Provide hollow load bearing CMU per ASTM C 90 requirements for lightweight units as manufactured by Boral™ Concrete Products.
B. Provide Custom Colored hollow load bearing CMU per ASTM C 90 requirements for normal weight units as manufactured by Boral™ Concrete Products. All custom units to be manufactured with an integral water-repellent.
C. Provide Custom Burnished hollow or solid load bearing CMU per ASTM C 90 requirements for normal weight units as manufactured by Boral™ Concrete Products. All custom burnished units to be manufactured with an integral water-repellent. Allow 1/16” off each burnished surface from actual dimension of unit.
2.4 Reinforcement and Metal Accessories
A. Provide deformed reinforcing bars per ASTM A 615.
B. Provide Joint Reinforcement that conforms to ASTM A 951. All reinforcement and anchors to be hot dip galvanized per ASTM A 153as manufactured by Masonry Reinforcing corporation of America (Wire-Bond) or Dur-OWal.

2.5 Accessories
A. Provide 5 oz. Copper Seal flashing.
B. Provide PVC contraction joint material conforming to ASTM D 2240 as manufactured by Wirebond.
C. Provide expansion joint material conforming to ASTM C 920.
D. Masonry Cleaners as manufactured by Pro-SoCo.
E. Masonry exterior wall water repellent as manufactured by Pro-SoCo.

PART 3 – EXECUTION

3.1 Inspection
Prior to the start of masonry construction, the Masonry Contractor shall verify foundation tolerances conforming to the requirements of ACI 117. Furthermore, reinforcing dowel positions shall be verified to be located as indicated on the Construction Documents. Notify the Architect/Engineer if conditions are not meet.

3.2 Preparation
A. Clean all reinforcement.
B. Prior to placing masonry, remove laitance, loose aggregate and anything else that would prevent mortar from bonding to the foundation.
C. Do not wet CMU before laying.

3.3 Masonry Erection
A. Construct masonry in a running bond with CMU centered over head joints.
B. Unless otherwise required, construct 3/8” thick bed and head joints. Tool joints with concave type joint.
C. Fully mortar web and face shells. Head joints shall be at least as thick as CMU face shell thickness.
D. Place horizontal bed joint reinforcement 16” o/c. Start placement between first and second course, minimum lap 8”, discontinue (terminate) at contraction and expansion joints and use Control Joint Anchors.
E. Unless otherwise indicated on Construction Documents, lap reinforcing steel 40 bar diameters, but not less than 12”. Sleeve bond beams 8” across contraction and expansion joints as indicated on Construction Documents.
F. Brace walls for stability of masonry during construction.
G. Construction tolerances in accordance with ACI 503.1 ‘Specifications for Masonry Structures’.

3.4 Grout Placement
A. Place grout in low lifts not exceeding 8”.
B. Consolidate grout at time of placement.

3.5 Cleaning
Follow masonry cleaner manufacturer’s procedures. Test sample panel to verify final results.

3.6 Exterior Wall Coatings
Follow masonry water repellent manufacturer’s procedures. Test sample panel to verify final results.

Note: Above-referenced Specification will vary with each Project. Refer to ‘Specification for Masonry Structures’ (ACI 530.1 / ASCE 6 / TMS 602) for properly choosing and specifying the necessary requirements for the Project Specifications.