

DIVISION 3 - CONCRETE

A. SPECIFICATIONS

Concrete shall be furnished and installed based on latest editions and applicable portions of ACI, CRSI, and ASTM standards. Specification description of methods and materials shall clearly outline all requirements of the work. ACI and ASTM Standards numbers should be used as reference only to expand or substantiate the basic information shown in the specification. Shop drawings for reinforcement, mix designs, and pre-stressed units shall be required. Contractors shall meet city of Colorado Springs specifications for handicap ramps or any other concrete work that is in the City right of way.

B. FORMWORK

1. Specify design for lateral pressure and loads in accordance with ACI and wind loads as per applicable sections of the controlling local building code.
2. Specify tolerances for formed surfaces.
3. Specify applicable materials for concrete finish desired.
4. Chamfer exterior corners of concrete surfaces.

C. REINFORCING

1. List materials and give specific ACI and ASTM specification designations.
2. Specify placement methods and reinforcement quantity.
3. Specify size of anchor bolts and placement requirements.
4. Specify rebar anchorage between foundation walls and exterior platform at exterior doors to limit frost heave.

D. CONCRETE

1. List all materials. Call for concrete in conformance with ASTM C-94, latest edition. Air entrainment is required for all exterior concrete. Calcium chloride admixtures are prohibited.
2. No site mixed concrete will be allowed.
3. Concrete shall have a minimum compressive strength of 3000psi at 28 days with slump not to exceed 4"
4. The use of jitterbugs during placement is prohibited.
5. All interior concrete to have smooth trowel finish.
6. All exterior concrete to have light broom finish.
7. Installation of concrete over expansive soils will require excavation of an additional 4" depth to allow for installation of non-expansive fill material. Acceptable fill materials depending on application are pea gravel, class 6 road base, or recycled concrete.
8. Specified design mixes shall be submitted to and approved in writing by Architect and/or COTR prior to placement of any concrete. Contractor shall furnish evidence satisfactory to Owner and Architect that all materials to be used and proportions selected will conclusively and uniformly produce concrete of the quality specified. Mix designations of approved mix design shall appear on all truck delivery tickets.
9. Specify size of aggregate, minimum and maximum slump for each class of concrete, air content percentages, and minimum strength at 28 days.
10. Specify placement procedures. List hot and cold weather requirements for placement of concrete, and protection and curing standards.
11. Specify and show type, size, and location of all control joints and expansion joints.
12. Specify floor surface finishes and the procedure for obtaining them. Typical floors shall be finished level to maximum tolerance of 1/4" in 10', except where drains occur, in which case they shall be sloped to drains.

13. Compatible sealers and curing compounds shall be specified for specific floor finishes (i.e. epoxy, VCT, carpet, etc.).
14. Concrete Testing - Testing agency shall be designated, secured, and services paid for by the Owner. Testing will be done per specified procedures. Architect will consult with Owner if additional testing is needed. Architect will consult with Owner regarding the number of tests, number of cylinders, etc. Averaging of separate tests to determine strength is not permitted. Contractor will contact testing agency to schedule specified testing.
15. Copies of the test reports will be forwarded from the testing agency to the Owner, Architect, and Contractor.
16. Concrete which fails to meet the specified strength requirements and which, in the Architect's opinion, cannot be brought into conformance, will be rejected and shall be removed and replaced at the Contractor's expense.
17. Acceptance criteria for formed surfaces shall be specified.

E. COLORED CONCRETE

Use colored concrete in accordance with City of Colorado Springs and ADA standards for all handicap ramps. Colored concrete shall not be utilized in any other areas except as specifically approved by the Owner.

<<<<END OF DIVISION 3>>>>