

**1.01 QUALITY ASSURANCE**

Concrete work shall conform to applicable requirements of ACI-301, "Specifications for Structural Concrete for Buildings", and ACI-318, "Building Code Requirements for Reinforced Concrete".

**1.02 RELATED WORK**

Concrete paving is specified in Section 02750.

**2.01 MATERIALS**

- A. Cement: ASTM C150.
- B. Reinforcing steel: ASTM A615, Grade 60.
- C. Welded wire fabric: ASTM A82 and A185 and shall be 6" x 6", 10/10.
- D. Synthetic reinforcing fibers shall be one-inch maximum length, virgin polypropylene olefin, collated, fibrillated fibers for rapid dispersion during mixing.
- E. Aggregate: ASTM C33.
- F. Vapor barrier under slabs on earth: 6 Mil polyethylene film.
- G. Expansion joint filler: non-extruding, resilient, non-bituminous conforming to ASTM D1752, Type II.
- H. Floor hardener/sealer treatment shall be Sealtight Dust-Gard, by W.R. Meadows, Sonosil, by Sonneborn, or J-13 Silicate Floor Hardener & Dustproofer, by Dayton Superior Corp.

**2.02 CONCRETE**

- A. Concrete shall be machine mixed to produce cured material having compressive strength of not less than 3000 psi. Ready-mixed concrete may be used, conforming to ASTM C 94.
- B. Introduce synthetic reinforcing fibers to concrete mix after all other ingredients and before placing aid have been added. Dosage rate shall be 1-1/2 pounds of fibers per cubic yard of concrete. Mix for a minimum of 5 minutes to disperse fibers throughout mixture.

**3.01 PLACING**

- A. Insure that work which will be covered with concrete has been inspected and approved before placing concrete.
  - 1. At areas of patched floors, remove all loose materials and sweep clean. Dampen existing concrete to which new concrete will be placed; there shall be no standing water in areas to be concreted.
- B. Pour concrete not later than one hour after mixing.
- C. Use internal type mechanical vibrators and/or hand spading to produce the required concrete quality and finish. Take care that vibration is not applied long enough to separate the ingredients.

- D. The work shall be laid out and carried on so that there will be as few construction joints as possible. Where joints are necessary, they shall be bulkheaded vertically.
- E. Floor slabs shall be screeded to an even surface to a level of 1/4" in 10' by the use of a straight edge and screeding strips accurately and securely set to the proper level to finish flush with adjacent existing floors.

### 3.05 FINISHING INTERIOR FLOORS

- A. Float or darby slightly stiffened concrete floors to a level or true surface and work with a wood float to compact the concrete and produce a surface free from depressions and inequalities of any kind and to produce a uniform sand texture.
- B. Troweled finish shall be applied to interior concrete floor surfaces. Surface shall first be float finished as specified above. It shall next be power troweled and finally hand troweled. Final troweling shall be done when a ringing sound is produced as the trowel is moved over the surface. The finished surface shall be free of trowel marks, uniform in texture and appearance and shall be to tolerance specified above. Any defects of sufficient magnitude to show through floor covering shall be removed by grinding.
- C. Concrete floors indicated to remain exposed in the finished work shall be treated with the specified hardener/sealer applied in not less than two coats and in accordance with the manufacturer's printed instructions.

### 3.06 CONCRETE CURING

- A. Within one hour after concrete has been finished, apply curing methods.
- B. Cure all surfaces for a minimum period of 7 days. Curing shall be by moist curing with sand kept continuously wet, waterproof curing paper or liquid membrane forming curing compound. Selection of curing method shall be compatible with the finish to be applied to the concrete surface and acceptable to the Architect.
- C. Waterproof curing paper shall conform to ASTM C 171-69(1986). Maintain curing paper in-place for the curing period.
- D. Liquid membrane-forming curing compound shall have a minimum solids content by weight of 16%; shall conform to the requirements of ASTM C 309-81, Type 1; and shall not require removal for holding of paint and floor covering adhesives. Use directly from the container without diluting within one hour after final finishing in one-coat at a coverage not to exceed 200 sq. ft. per gallon.

END OF SECTION