

Concrete

Cast-in-place Concrete (03 30 00)

For questions regarding this section contact: Physical Plant
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Part 1 – General

- This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, and placement procedures.

Part 2 – Product

- Form facing materials, steel reinforcement, synthetic fibrous reinforcement, concrete materials, vapor retarders, curing materials, expansion and isolation joint filler strips, concrete mixtures, fabricating steel reinforcement and concrete mixing must follow the applicable American Society for Testing and Materials (ASTM) and American Concrete Institute (ACI) standards as referenced by project manual or directed by facilities representative.

Part 3 – Execution

- *Conveying Concrete:* Convey concrete from mixer to final place of deposit by a method which will prevent segregation. Method of conveying concrete subject to approval of facilities representative.
- *Placing:* For special requirements see Bullets, HOT WEATHER and COLD WEATHER.
- Do not place concrete when weather conditions prevent proper placement and consolidation, or when concrete has attained its initial set, or has contained its water or cement content more than 1 1/2 hours.
- Deposit concrete in forms as near as practicable in its final position. Prevent splashing of forms or reinforcement with concrete in advance of placing concrete.
- Do not drop concrete freely more than 3000 mm (10 feet) for concrete containing the high-range water-reducing admixture (superplasticizer) or 1500 mm (5 feet) for conventional concrete. Where greater drops are required, use a tremie or flexible spout (canvas elephant trunk), attached to a suitable hopper.
- Continuously place concrete until an entire unit between construction joints is placed. Rate and method of placing concrete shall be such that no concrete between construction joints will be deposited upon or against partly set concrete after initial set has taken place, or after 45 minutes of elapsed time during concrete placement.
- **Hot Weather** follow the recommendations of ACI 305 or as specified to prevent problems in the manufacturing, placing, and curing of concrete that can adversely affect the properties and serviceability of the hardened concrete. Methods proposed for cooling materials and arrangements for protecting concrete shall be made in advance of concrete placement and approved by facilities representative.
- **Cold Weather** follow the recommendations of ACI 306 or as specified to prevent freezing of concrete and to permit concrete to gain strength properly. Use only the specified non-corrosive, non-chloride accelerator. Do not use calcium chloride, thiocyanates or admixtures containing more than 0.05 percent chloride ions. Methods proposed for heating materials and arrangements for protecting concrete shall be made in advance of concrete placement and approved by facilities representative.