

**Jefferson County School District, R-1  
Support Services**

**TECHNICAL GUIDELINES**

**DIVISION 03 – CONCRETE  
May 16, 2008**

## **DIVISION 03 - CONCRETE**

### **03 06 00 Schedules for Concrete – November 1, 2006**

- For most projects, a Concrete Schedule is strongly recommended, containing the following minimum information for both design and as tested conditions:
  1. Label
  2. Application/location
  3. Cement type
  4. Mix Design
  5. Water/Cement Ratio (maximum)
  6. Air Entrainment %
  7. Maximum aggregate size
  8. Slump (range or maximum)
  9. 28 day strength (psi)

END SECTION 03 06 00

### **03 10 00 Concrete Forming and Accessories – November 1, 2006**

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Permanent Void Forms
  1. Prefabricated preassembled or KD void forms are recommended
  2. Provide Seam and end caps to prevent concrete flow into voids.
- Cast-in metal stair treads and nosings are prohibited at stairs and steps exposed to weather.
- Jefferson County School District, R-1 reserves the right to have a licensed structural engineer inspect and accept form work in advance of the concrete pour.
- A 45° 1-inch chamfer form is required at exposed exterior corners of both structural and architectural cast-in-place concrete.
- Inserts and Anchors: Stainless steel. Plastic is prohibited.

END SECTION 03 10 00

**03 20 00 Concrete Reinforcing – November 1, 2006**

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- In the absence of other information, standards of the following organizations apply:
  1. Concrete Reinforcing Steel Institute (CRSI)
- Submittals
  1. Shop Drawings: Required for structural concrete reinforcement
  2. Closeout: Submittals listed above, updated to as-built status.
- Fibrous Reinforcing: Not permitted
- Structural Engineer inspect and accept concrete reinforcement in advance of concrete pour.

END SECTION 03 20 00

**03 30 00 Cast-in-Place Concrete – May 16, 2008**

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline, except as otherwise noted.
- Unfinished interior concrete walls and floors require sealer per Division 07.
- In the absence of other information, standards of the following organizations apply:
  1. American Concrete Institute (ACI)
  2. Portland Cement Association (PCA)
  3. Colorado Ready Mixed Concrete Association (CRMCA)
- Submittals
  1. Samples: Required
  2. Test Reports: Required
  3. Closeout: Test reports
- Restrictions
  1. Exposed heavy/rough texture finish concrete (over ¼” surface variation) is prohibited for any interior finish.
  2. Coloring of concrete during mixing or curing is prohibited.
- Concrete Type: Per geotechnical report and Structural Engineer of record.
- Floor Slab
  1. Mix:
  2. Requirements established by Structural Engineer to meet project specific conditions and geotechnical report recommendations.
  3. Reinforcement
    - a. As recommended by Structural Engineer.
  4. Placement conditions
    - a. 85°F maximum ambient temperature
    - b. Cold weather placement procedures per ACI or Structural Engineer recommendations.
  5. Control Joints
    - a. 2’-0” maximum joint separation per inch of slab thickness (4 inch slab = 8’-0” joint separation)
    - b. Minimum depth: 10% of slab thickness

6. Finishing
  - a. Float
  - b. Float finish plus sealer/hardener where no finished flooring is scheduled
7. Prohibited:
  - a. Calcium chloride
  - b. Waterproofing admixtures, silane, siloxane
  - c. Acid wash unless fully extracted
  - d. Non-dissipating curing/sealing compound
8. Sustainability considerations shall be made by the Design Team, which may include:
  - a. Use of recycled concrete as under slab base course
  - b. Percentage of fly ash which is acceptable for performance of finished concrete.
- Options for concrete floor slabs on grade to receive adhered finished flooring:
  1. Controlled curing environment per ACI requirements.
  2. Vapor Emission and Alkalinity Testing
    - a. Quantitative and qualitative 72 hour anhydrous calcium chloride moisture tests per ASTM
    - b. Test for alkalinity before and during finish flooring installation
    - c. Finish flooring work is prohibited when pH exceeds 8.45.
  3. Admixtures and treatments
    - a. CreteSeal
    - b. FloorSeal
    - c. Sinak
  4. Scarification
    - a. Shotblast slab prior to installation of flooring
  5. Under-Slab Vapor Barrier
    - a. Puncture resistant virgin material
    - b. Minimum thickness: 15 mil
    - c. Detail all termination and penetration conditions.
      - (1) Pourable sealer is acceptable in lieu of tape closure.
    - d. Design Team responsible for specifying use, type and installation method of under-slab vapor barrier, based upon site specific conditions..
  6. A combination of above items may be required.
    - a. Design Team to specify based upon site conditions.

END SECTION 03 30 00

### **03 40 00 Precast Concrete – November 1, 2006**

- Work in this section is open to any product or material
- In the absence of other information, standards of the following organizations apply:
  1. American Concrete Institute (ACI)
  2. Portland Cement Association (PCA)
  3. Colorado Ready Mixed Concrete Association (CRMCA)
- Exposed aggregate precast concrete
  1. Use top surface retarder. Do not use brush with water spray until concrete has cured.
  2. Detail smooth surface (no aggregate) at fenestration and other locations where sealant is to be applied

END SECTION 03 40 00

**03 50 00 Cast Decks and Underlayment – November 1, 2006**

- Work in this section is open to any product or material.
- Cementitious Roof Deck:
  1. Cementitious Wood Fiber Plank: Prohibited for structural applications
  2. Gypsum Concrete Roof Deck: Prohibited

END SECTION 03 50 00

**03 60 00 Grouting – November 1, 2006**

- Work in this section is open to any product or material

END SECTION 03 60 00

**03 80 00 Concrete Cutting and Boring – November 1, 2006**

- Work in this section is open to any product or material

END SECTION 03 80 00