

**SECTION 03 20 00**  
**CONCRETE REINFORCING**

**PART 1 GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

**1.02 SECTION INCLUDES**

- A. Reinforcing steel for cast-in-place concrete.
- B. Supports and accessories for steel reinforcement.

**1.03 RELATED REQUIREMENTS**

- A. Section 01 45 33 - Code-Required Special Inspections and Procedures: Code required special tests and inspections.
- B. Section 03 30 00 - Cast-in-Place Concrete.

**1.04 REFERENCE STANDARDS**

- A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).
- B. ACI MNL-66 - ACI Detailing Manual; 2020.
- C. ACI SPEC-301 - Specifications for Concrete Construction; 2020.
- D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2020.
- E. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2018a.
- F. CRSI (DA4) - Manual of Standard Practice; 2009.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, location of splices, and mechanical splices and connections. Show additional reinforcing required to hold reinforcing in place.
- C. Plans shall be at 1/8" = 1'-0" or larger scale.
- D. Shop drawings shall be reviewed and stamped by the general contractor prior to submittal. Incomplete shop drawings and shop drawings that have not been reviewed by the general contractor will be returned without review by the architect/engineer.
- E. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

**1.06 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with ACI SPEC-301.
  - 1. Maintain one copy of each document on project site.

**PART 2 PRODUCTS**

**2.01 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
  - 1. Deformed billet-steel bars.
  - 2. Unfinished.
- B. Deformed Bar Anchors: Deformed Bar Anchors, A496 or A1064, minimum yield strength 75 KSI
- C. Steel Welded Wire Reinforcement (WWR): Plain type; ASTM A1064/A1064M.

1. Form: Flat Sheets.
  2. Mesh Size and Wire Gage: As indicated on drawings.
- D. Reinforcement Accessories:
1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
  2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
  3. Provide plastic components for placement within 1-1/2 inches of weathering surfaces.

## **2.02 RE-BAR SPLICING:**

- A. Coupler Systems: Mechanical devices for splicing reinforcing bars; capable of developing 125% of the full steel reinforcing design strength in tension and compression.

## **2.03 FABRICATION**

- A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
- B. Welding of reinforcement is not permitted.
- C. Locate reinforcing splices not indicated on drawings at point of minimum stress.

## **PART 3 EXECUTION**

### **3.01 PLACEMENT**

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position. All reinforcing bars shall be supported and wired together to prevent displacement by construction loads or the placing of concrete beyond the tolerances noted below.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Welded wire fabric shall have lapped splices made so that the overlap measured between the outermost cross wires of each fabric sheet is not less than the spacing of the cross wires plus 2 inches.
- D. Do not displace or damage vapor barrier.
- E. Accommodate placement of formed openings.
- F. Conform to drawings for concrete cover over reinforcement.
- G. Placement Tolerances: Bars should be placed to the following tolerances: Concrete cover to formed surface: plus or minus 1/4 inch; Minimum spacing between bars: 1/2 inch; Crosswise of members: plus or minus 2 inches; Lengthwise of members: plus or minus 2 inches. Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, the resulting arrangement of bars shall be subject to approval by the Architect/Engineer.
- H. Grouting of dowels into existing concrete shall be done with cement based non-shrink grout mixed and installed as required by the manufacturer's instructions.

### **3.02 FIELD QUALITY CONTROL**

- A. An independent testing agency, as specified in Section 01 45 33 - Code-Required Special Inspections and Procedures, will inspect installed reinforcement for conformance to contract documents before concrete placement.

**END OF SECTION**