

SECTION 03 2000 - CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 04 2000 – Unit Masonry: Reinforcement for masonry.

1.03 REFERENCE STANDARDS (LATEST EDITION)

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International.
- B. ACI 318 – Building Code Requirements For Structural Concrete and Commentary; American Concrete Institute International.
- C. ACI SP-66 - ACI Detailing Manual; American Concrete Institute International.
- D. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- E. ASTM A185/A185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
- F. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- G. CRSI (DA4) - Manual of Standard Practice; Concrete Reinforcing Steel Institute.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Comply with requirements of ACI SP-66. Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrups spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- C. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.
- D. Reports: Submit certified copies of mill test report of reinforcement materials analysis.

1.05 QUALITY ASSURANCE

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

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store reinforcing steel off the ground with timbers, planks, or pallets free of mud and standing water. If storage occurs during winter months, cover and ventilate. Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M Grade 60, deformed.
- B. Joint Dowel Bars: ASTM A615/A615M Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- C. Steel Welded Wire Reinforcement: ASTM A185/A185M, plain type.
 - 1. Fabricated from as-drawn steel wire into flat sheets.
 - 2. Mesh Size and Wire Gage: As indicated on drawings.
- D. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage.
 - 2. Bar Supports: Chairs, Bolsters, Bar Supports, Spacers and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Sized and shaped for adequate support of reinforcement during concrete placement. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice", of greater compressive strength than concrete.
 - 3. Provide stainless steel components for placement within 1-1/2 inches of weathering surfaces, unless noted otherwise on Structural drawings. Wood materials are prohibited.
 - 4. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
 - 5. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

2.02 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.
 - 1. Review locations of splices with Engineer.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position. Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

- B. Do not displace, cut, puncture or damage vapor barrier. Repair damage and reseal vapor retarder before placing concrete.
- C. Accommodate placement of formed openings.
- D. Conform to applicable code for concrete cover over reinforcement, and as specified on drawings.
- E. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- F. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- G. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.02 FIELD QUALITY CONTROL

- A. An independent testing agency, as specified in Section 01 4000, will inspect installed reinforcement for conformance to contract documents before concrete placement.

END OF SECTION