

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Reinforcement bars for cast-in-place concrete

1.02 RELATED SECTIONS

- A. Concrete Formwork: Section 03100.
- B. Cast-in-Place Concrete: Section 03300.

1.03 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:
 - 1. ACI 318 “Building Code Requirements for Reinforced Concrete”.
 - 2. Concrete Reinforcing Steel Institute (CRSI), “Manual of Standard Practice”.

1.04 REFERENCES

- A. Comply with the latest published for the following referenced standards.
- B. American Concrete Institute (ACI):
 - 1. ACI 117; Standard Specifications for Tolerances for Concrete Construction and Materials
 - 2. ACI 315; Details and Detailing of Concrete Reinforcement.
 - 3. ACI 318; Building Code Requirements for Structural Concrete.
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM A82; Steel Wire, Plain, for Concrete Reinforcement, Spec. for.
 - 2. ASTM A185; Steel Welded Wire Fabric, Plain for Concrete Reinforcement, Spec. for.
 - 3. ASTM A497; Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement, Spec. for.
 - 4. ASTM A615; Deformed and Plain Billet-Steel Bars for Concrete Reinforcement, Spec for.
- D. Concrete Reinforcing Steel Institute (CRSI):
 - 1. Manual of Standard Practice
 - 2. Manual of Placing Reinforcing Bars

1.05 SUBMITTALS

- A. Product Data: Submit data for proprietary materials and items, including reinforcement, accessories, and others as requested by Engineer.

- B. Shop Drawings: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Reinforcing Steel:
 - 1. Reinforcing Bars: ASTM A615, Grade 60, deformed.
 - 2. Steel Wire: ASTM A82, plain, cold-drawn, steel.
 - 3. Plain Steel Welded Wire Fabric: ASTM A185.
 - 4. Deformed Steel Welded Wire Fabric: ASTM A497.

- B. Supports for Reinforcement: Use wire bar type supports complying with CRSI specifications.
 - 1. For footings, foundation mats and slabs-on-grade, use chairs with sand plates, horizontal runners, or precast concrete blocks.
 - a. Any metal chairs or spacers in contact with the ground shall be galvanized, epoxy-coated or stainless steel.
 - b. Concrete masonry units or bricks are not acceptable.
 - 2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

PART 3 – EXECUTION

3.01 FABRICATION

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."
- B. Fabrication tolerances shall conform to ACI 117 requirements:

3.02 INSPECTION

- A. Notify Engineer 48 hours before placing concrete so an inspection of the reinforcing placement can be made

3.03 PREPARATION

- A. Verify that items to be embedded in concrete are secured in place and block-outs in formwork are secured in place as required. Formwork installed as work of Section 03100.

3.04 INSTALLATION

- A. Comply with CRSI's "Manual for Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
 - 1. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

2. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations.
3. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations.
4. Welding of reinforcement including tack welds are not permitted on this project.
5. A blowtorch shall not be used to facilitate field cutting or bending or any other reinforcing work.
6. Reinforcement shall not be bent after partially embedded in hardened concrete.
7. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction. Lace overlaps with wire.

END OF SECTION