

**Part 1           General**

**1.1           RELATED REQUIREMENTS**

- .1       Section 03 30 00 – Cast-In-Place Concrete

**1.2           REFERENCE STANDARDS**

- .1       American Concrete Institute (ACI)
  - .1       SP-66-04, ACI Detailing Manual.
- .2       ASTM International
  - .1       ASTM A775/A775M-16, Standard Specification for Epoxy-Coated Reinforcing Steel Bars.
- .3       Canadian Standards Association (CSA)
  - .1       CSA A23.1-14/A23.2-14, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
  - .2       CSA A23.3-14, Design of Concrete Structures.
  - .3       CSA G30.18-09(R2014), Carbon Steel Bars for Concrete Reinforcement.
  - .4       CSA W186-M1990(R2012), Welding of Reinforcing Bars in Reinforced Concrete Construction.
- .4       Reinforcing Steel Institute of Canada (RSIC)
  - .1       RSIC-2004, Reinforcing Steel Manual of Standard Practice.

**1.3           QUALITY ASSURANCE**

- .1       Upon request submit in writing to Departmental Representative proposed source of reinforcement material to be supplied.

**1.4           DELIVERY, STORAGE AND HANDLING**

- .1       Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2       Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3       Storage and Handling Requirements:
  - .1       Store materials in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2       Replace defective or damaged materials with new.

**Part 2           Products**

**2.1           MATERIALS**

- .1       Substitute different size bars only if permitted in writing by Departmental Representative.

- .2 Reinforcing steel: billet steel, grade 400, deformed bars to CSA-G30.18, unless indicated otherwise.
- .3 Reinforcing steel: weldable low alloy steel deformed bars to CSA-G30.18.
- .4 Cold-drawn annealed steel wire ties: 16 gauge to ASTM A1064/A1064M.
- .5 Chairs, bolsters, bar supports, spacers: to CSA-A23.1/A23.2.
- .6 Mechanical splices: subject to approval of Departmental Representative.
- .7 Plain round bars: to CSA-G40.20/G40.21.

### **Part 3 Execution**

#### **3.1 FIELD BENDING**

- .1 Do not field bend or field weld reinforcement except where indicated or authorized by Departmental Representative.
- .2 When field bending is authorized, bend without heat, applying slow and steady pressure.
- .3 Replace bars, which develop cracks or splits.

#### **3.2 PLACING REINFORCEMENT**

- .1 Place reinforcing steel as indicated on placing drawings in accordance with CSA-A23.1/A23.2.
- .2 Use plain round bars as slip dowels in concrete.
  - .1 Paint portion of dowel intended to move within hardened concrete with one coat of asphalt paint.
  - .2 When paint is dry, apply thick even film of mineral lubricating grease.
- .3 Prior to placing concrete, obtain Departmental Representative's approval of reinforcing material and placement.
- .4 Ensure cover to reinforcement is maintained during concrete pour.
- .5 Keep reinforcing steel 65 mm back from construction joints and non-doweled joints.
- .6 Protect coated portions of bars with covering during transportation and handling.

#### **3.3 FIELD TOUCH-UP**

- .1 Touch up damaged and cut ends of epoxy coated or galvanized reinforcing steel with compatible finish to provide continuous coating.

#### **3.4 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

**END OF SECTION**