

Part 1 General**1.1 STANDARD**

- .1 Concrete materials and methods of construction: to CAN/CSA-A23.1 unless otherwise specified. All codes to be most current at time of tender.

1.2 INSPECTION

- .1 Contractor to provide the Departmental Representative with photographs of the reinforcing prior to pouring concrete. Concrete to be poured after receiving Departmental Representative's written approval.

1.3 SHOP DRAWINGS

- .1 Not required

Part 2 Products**2.1 MATERIALS**

- .1 Portland cement: to CAN/CSA-A5, Type 10, sulphate resistant.
- .2 Portland cement: to CAN/CSA-A5, Type 10.
- .3 Shrinkage compensating grout: pre-mixed, non-metallic aggregate, 50 MPa compressive strength at 28 days.
- .4 Reinforcing bars: to CAN/CSA-G30.18-M, Grade 400.
- .5 Welded steel wire fabric: to CSAG30.5- M.
- .6 Premoulded joint filler:
 - .1 Closed cell sponge polyethylene to ASTM D1056.
 - .2 Foamtec or approved alternate.
- .7 Joint sealer/filler:
 - .1 To CAN/CGSB-19.24- M, Type 1, Class B.
 - .2 Sikaflex 2C NS/SC or approved alternate.
- .8 All other concrete materials: to CAN/CSA-A23.1.

2.2 MIX PROPORTIONS

- .1 Method: Alternative (1) of CAN/CSA-A23.1.
- .2 Cement type: as specified under 2.1.
- .3 Minimum 28-day compressive strengths and exposure classifications:
 - .1 Curbs, and exposed site concrete: 32 MPa; C-2.
- .4 Nominal size of coarse aggregate: Clause 14 of CAN/CSA-A23.1.
- .5 Slump: to Table 6 of CAN/CSA-A23.1.
- .6 Joint sealer/filler:
 - .1 To CAN/CGSB-19.24- M, Type 1, Class B.
 - .2 One part, moisture curing, elastic joint sealant based on polyurethane.
 - .3 Suitable for use at a gasoline filling station.
 - .4 Movement capability 25%.

- .5 Service temperature -40°C to +70°C.
 - .6 Designed for use on horizontal and vertical joints of poured concrete.
 - .7 Supply backer or release material for joints as recommended by manufacturer.
- .7 Admixtures: to Clause 6 of CAN/CSA-A23.1.

Part 3 Execution

3.1 INSERTS

- .1 Cast in sleeves, ties, slots, anchors, reinforcement, frames, conduit, bolts, waterstops, joint fillers, and other inserts required to be built-in. Sleeves and openings greater than 100 mm x 100 mm not indicated, must be approved by Departmental Representative.

3.2 COLD WEATHER CONCRETING

- .1 Contractor to provide a preconstruction plan for Placing, Finishing and Curing Concrete at temperatures below 5° Celsius. Plan to be developed in accordance with CSA A23.1-14 / A23.2-14 and provided to the Departmental Representative prior to construction start.

3.3 FINISHES

- .1 Equipment pads: smooth trowelled surface; finishing tolerance classification: Very Flat.
- .2 Pavements, walks, curbs, and exposed site concrete: screed to plane surfaces and float using aluminum, magnesium, or wood floats. Round edges and provide joint spacings using standard tools. Trowel smooth followed by lightly brushed non-slip finish.

3.4 CURING

- .1 Cure and protect concrete in accordance with CAN/CSA-A23.1, except that curing compounds shall not be used where bond is required by subsequent topping or coating.

3.5 GROUT

- .1 Grout voids under base plates.
- .2 Grout into place, bolts and other items of concrete hardware, that are not placed prior to pouring concrete.
- .3 Mix and place grout.

END OF SECTION

Part 1 General**1.1 RELATED WORK**

- .1 Section 03 05 10 – Cast-in-Place Concrete – Short Form.

1.2 SOURCE QUALITY CONTROL

- .1 Upon request, provide Departmental Representative with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis.
- .2 Upon request, inform Departmental Representative of proposed source of material to be supplied.

1.3 SHOP DRAWINGS

- .1 Not Required.

1.4 MEASUREMENT FOR PAYMENT

- .1 No measurement will be made under this section. Include costs in items of concrete work for which reinforcement is required.

1.5 SUBSTITUTES

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

Part 2 Products**2.1 MATERIALS**

- .1 Reinforcing steel: billet steel, grade 400, deformed bars to CAN/CSA-G30.18, unless indicated otherwise.
- .2 Reinforcing steel: weldable low alloy steel deformed bars to CAN/CSA G30.18.
- .3 Cold-drawn annealed steel wire ties: to CSA G30.3.
- .4 Deformed steel wire for concrete reinforcement: to CSA G30.14.
- .5 Welded steel wire fabric: to CSA G30.5. Provide in flat sheets only.
- .6 Chairs, bolsters, bar supports, spacers: to CAN/CSA-A23.1.
- .7 Mechanical splices: subject to approval of Departmental Representative.
- .8 Plain round bars: to CAN/CSA-G40.21.

2.2 FABRICATION

- .1 Fabricate reinforcing steel in accordance with CAN/CSA-A23.1, ANSI/ACI 315, and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada, unless indicated otherwise.
- .2 Obtain Departmental Representative's approval for locations of reinforcement splices other than those shown on placing drawings.
- .3 Upon approval of Departmental Representative, weld reinforcement in accordance with CSA W186.
- .4 Ship bundles of bar reinforcement, clearly identified in accordance with bar bending details and lists.

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 a slow and steady pressure.
- .3 Replace bars which develop cracks or splits.

3.2 PLACING REINFORCEMENT

- .1 Place reinforcing steel as indicated on reviewed placing drawings and in accordance with CAN/CSA-A23.1.
- .2 Prior to placing concrete, obtain Departmental Representative's approval of reinforcing material and placement.
- .3 Ensure cover to reinforcement is maintained during concrete pour.

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.

END OF SECTION