

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 - Environmental Procedures.
- .3 Section 04 05 00 - Common Work Results for Masonry.
- .4 Section 04 05 12 – Mortar and Masonry Grout.
- .5 Section 04 21 13 – Brick Masonry.
- .6 Section 04 22 00 – Concrete Unit Masonry.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-A23.1-04/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.
 - .2 CSA-A370-04(R2009), Connectors for Masonry.
 - .3 CSA-A371-04(R2009), Masonry Construction for Buildings.
 - .4 CSA G30.14-M1983(R1998), Deformed Steel Wire For Concrete Reinforcement.
 - .5 CAN/CSA G30.18-09, Billet-Steel Bars for Concrete Reinforcement.
 - .6 CSA-S304.1-04(R2010), Masonry Design for Buildings.
 - .7 CSA W186-M1990(R2012), Welding of Reinforcing Bars in Reinforced Concrete Construction.
 - .8 CSA A179-04(R2009), Mortar and Grout For Unit Masonry.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
 - .2 Submit two copies of WHMIS MSDS – Material Safety Data Sheets. Indicate VOC's for epoxy coatings and galvanized protective coatings and touch-up products illustrating products to be incorporated into project for specified products.
 - .2 Shop Drawings:
 - .1 Shop drawings consist of bar bending details, lists and placing drawings. Provide shop drawings detailing bar bending details, anchorage details, lists and placing drawings.
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- .2 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.
 - .3 Indicate on shop drawings, bar bending details, lists, quantities of reinforcement, sizes, spacings, locations of reinforcement and mechanical splices if approved by Departmental Representative, with identifying code marks to permit correct placement without reference to structural drawings. Indicate sizes, spacings and locations of chairs, spacers and hangers. Prepare reinforcement drawings in accordance with Reinforcing Steel Manual of Standard Practice – by Reinforcing Steel Institute of Canada. ANSI/ACI 315 and ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 35 43 - Environmental Procedures.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard and packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal materials from landfill to metal recycling facility approved by Departmental Representative.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Bar reinforcement: to CSA-A371 and CAN/CSA G30.18, 400 MPa Steel.
 - .2 Wire reinforcement: to CSA-A371 and CSA G30.14. Heavy Duty Ladder Type Horizontal Reinforcing. 4.8 mm Longitudinal and 3.6 mm Transverse Wires Galvanized After Fabrication to ASTM A153-82, 456G/SQ.M.
 - .3 Ties: For concrete block and masonry construction: to CSA-A370 and CSA-S304, 1.6 mm thick stainless steel connector plate, c/w 5.8 mm dia. Holes for veneer tie wire attachment, 4.76 mm dia. Veneer ties with polyethylene insulation supports. Total length of connector plate to suit block width, air space and insulation.
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- .4 Corrosion protection: to CSA-S304, galvanized to CSA-S304 and CSA-A370.

2.2 FABRICATION

- .1 Fabricate reinforcing in accordance with CAN/CSA-A23.1.
- .2 Fabricate connectors in accordance with CSA-A370.
- .3 Obtain Departmental Representative's approval for locations of reinforcement splices other than shown on placing drawings.
- .4 Upon approval of Departmental Representative, weld reinforcement in accordance with CSA W186.
- .5 Ship reinforcement and connectors, clearly identified in accordance with drawings.

2.3 SOURCE QUALITY CONTROL

- .1 Upon request, provide Departmental Representative with certified copy of mill test report of reinforcement steel and connectors, showing physical and chemical analysis.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 GENERAL

- .1 Supply and install masonry connectors and reinforcement in accordance with CSA-A370, CSA-A371, CAN/CSA-A23.1 and CSA-S304.1 unless indicated otherwise.
- .2 Prior to placing mortar or grout, obtain Departmental Representative's approval of placement of reinforcement and connectors.
- .3 Supply and install additional reinforcement to masonry as indicated:
.1 Exterior cavity wall consisting of a wythe of clay brick with concrete block back-up.
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- .1 Space connectors and install in accordance with manufacturer's written instruction but not greater than 400 mm vertically or 800 mm horizontally.
- .4 All concrete block walls shall be reinforced with horizontal block reinforcement every second course to CSA S304.1, Latest Edition. Lap Reinforcement 150 mm at each splice.

3.3 BONDING AND TYING

- .1 Bond walls of two or more wythes using metal connectors in accordance with CSA-S304, CSA-A371, and as indicated.
- .2 Tie masonry veneer to backing in accordance with NBC, CSA-S304.1, CSA-A371, and as indicated.

3.4 REINFORCED LINTELS AND BOND BEAMS

- .1 Reinforce masonry lintels and bond beams as indicated.
- .2 Place and grout reinforcement in accordance with CSA-S304.1, CSA-A371, and CSA-A179.
- .3 Support and position reinforcing bars in accordance with CAN/CSA A371.

3.5 GROUTING

- .1 Grout masonry in accordance with CSA-S304.1, CSA-A371 and CSA-A179 and as indicated.

3.6 ANCHORS

- .1 Supply and install metal anchors as indicated.

3.7 LATERAL SUPPORT AND ANCHORAGE

- .1 Supply and install lateral support and anchorage in accordance with CSA-S304.1 and as indicated.

3.8 MOVEMENT JOINTS

- .1 Reinforcement will not be continuous across movement joints unless otherwise indicated.
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3.9 FIELD BENDING

- .1 Do not field bend reinforcement and connectors 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 and connectors which develop cracks or splits.

3.10 FIELD TOUCH-UP

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

3.11 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.