

1 GENERAL

1.01 REFERENCE STANDARDS

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A53/A53M – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
 - .2 ASTM A307 – Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.40 – Anticorrosive Structural Steel Alkyd Primer
 - .2 CAN/CGSB-1.181 – Ready-Mixed Organic Zinc-Rich Coating
- .3 Canadian Standards Association (CSA)
 - .1 CSA G40.20/G40.21 – General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
 - .2 CAN/CSA G164 – Hot Dip Galvanizing of Irregularly Shaped Articles
 - .3 CSA S16 – Design of Steel Structures
 - .4 CSA W48 – Filler Metals and Allied Materials for Metal Arc Welding
 - .5 CSA W59 – Welded Steel Construction (Metal Arc Welding)
- .4 Steel Structures Painting Council (SSPC)
 - .1 SSPC Systems and Specifications Manual

1.02 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit Shop Drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Shop Drawings: indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.
- .3 Drawings for structural requirements shall be stamped and signed by professional engineer registered or licensed in Province of Manitoba, Canada.

2 PRODUCTS

2.01 MATERIALS

- .1 Steel sections and plates: to CSA G40.20/G40.21, Grade 300W.
- .2 Steel pipe: to ASTM A53/A53M standard weight, black or galvanized finish.
- .3 Welding materials: to CSA W59.
- .4 Welding electrodes: to CSA W48 Series.

- .5 Bolts and anchor bolts: to ASTM A307.
- .6 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours.
- .7 Galvanizing: hot dipped galvanizing with minimum zinc coating of 2 oz/ft² to CAN/CSA G164.

2.02 FABRICATION

- .1 Fabricate Work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Use self-tapping shake-proof countersunk, flat headed screws on items requiring assembly by screws or as indicated.
- .3 Use welded connections for exterior metal Work, unless otherwise indicated or approved by Consultant.
- .4 Where possible, fit and shop assemble Work, ready for erection.
- .5 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.03 FINISHES

- .1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m² to CAN/CSA-G164.
- .2 Shop primers: provide primers that comply with Section 09 91 00 - Painting.
- .3 Shop coat primer: to CAN/CGSB-1.40, rust-inhibitive, high solids, low VOC.
- .4 Galvanized primer: zinc rich, ready-mix to CAN/CGSB-1.181, and compatible with topcoat.

2.04 SHOP PAINTING

- .1 Clean surfaces in accordance with SSPC standards.
 - .1 SSPC-SP 6 – Commercial Blast Cleaning
 - .2 SSPC-SP 3 – Power Tool Cleaning
- .2 Primer:
 - .1 Apply one (1) coat of shop primer to metal items, with exception of galvanized or concrete encased items.
 - .2 Apply two (2) coats of primer to parts inaccessible after final assembly.

.3 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.

.3 Clean surfaces to be field welded; do not paint.

2.05 STEEL FRAMING

.1 Steel framing: steel framing, size as noted on drawings

.2 Finish: galvanized. Refer to Section 09 91 00 - Painting, for bituminous coating.

3 EXECUTION

3.01 ERECTION

.1 Do welding Work in accordance with CSA W59, unless specified otherwise.

.2 Where possible, metalwork to be shop assembled and ready for installation on site.

.3 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

.4 Provide suitable means of anchorage acceptable to Consultant such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.

.5 Exposed fastening devices to match finish and be compatible with material through which they pass.

.6 Supply components for Work by other trades in accordance with shop drawings and schedule.

.7 Make field connections with bolts to CSA S16, or weld.

.8 Grind smooth all welds in exposed conditions.

.9 Deliver items over for casting into concrete and building into masonry together with setting templates to appropriate location and construction personnel.

.10 Touch-up rivets, field welds, bolts and burnt or scratched surfaces with primer after completion of erection.

.11 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

.12 Leave all surfaces in clean condition, free of foreign substances, ready for finish painting where required.

3.02 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by metal fabrications installation.

END OF SECTION