

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 74 11 - Cleaning.
- .2 Section 01 74 19 - Waste Management and Disposal
- .3 Section 09 91 23 - Interior Painting

1.2 REFERENCES

- .1 ASTM International Inc.
 - .1 ASTM A325M-08, Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-85.10-99, Protective Coatings for Metals.
- .3 Canadian Institute of Steel Construction (CISC)/Canadian Paint Manufacturers Association (CPMA).
 - .1 Handbook of the Canadian Institute of Steel Construction.
 - .2 CISC/CPMA Standard 2-75, Quick-Drying Primer for use on Structural Steel.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA G40.20/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA-G164-M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA-S16-01(R2007), Limit States Design of Steel Structures.
 - .4 CSA W59-3 Welded Steel Construction (Metal Arc Welding).
- .5 Master Painters Institute
 - .1 MPI-INT 5.1-08, Structural Steel and Metal Fabrications.
 - .2 MPI-EXT 5.1-08, Structural Steel and Metal Fabrications.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Shop Drawings, Product Data and Samples.
 - .2 Shop Drawings:
 - .1 Provide drawings, seal for design of connections is not required.
 - .3 Erection drawings:
 - .1 Submit erection drawings indicating details and information necessary for assembly and erection purposes including:
 - .1 Description of methods.
 - .2 Sequence of erection.
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- .3 Type of equipment used in erection.
- .4 Temporary bracings.
- .4 Fabrication drawings:
 - .1 Submit fabrication drawings showing designed assemblies, components and connections.
- .5 Source Quality Control Submittals:
 - .1 Submit 6 copies of mill test reports 4 weeks prior to fabrication of structural steel.
 - .1 Mill test reports to show chemical and physical properties and other details of steel to be incorporated in project.
 - .2 Provide mill test reports certified by metallurgists qualified to practice in Province of British Columbia, Canada.
- .6 Fabricator Reports:
 - .1 Provide structural steel fabricator's affidavit stating that materials and products used in fabrication conform to applicable material and products standards specified and indicated.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 10 - Product Requirements.
- .2 Deliver materials in manufacturer's original, undamaged containers with identification labels intact.
- .3 Packaging Waste Management: remove for reuse or return in accordance with Section 01 74 19 - Waste Management and Disposal.
- .4 Provide submittals in accordance with Section 01 33 00 - Shop Drawings, Product Data and Samples.

Part 2 Products

2.1 DESIGN REQUIREMENTS

- .1 Design details and connections in accordance with requirements of CAN/CSA-S16 and structural drawings and allow for movements indicated.

2.2 MATERIALS

- .1 Structural steel: to CSA-G40.20/G40.21 Grade 300W for plates and angles and 350W Class C for HSS.
 - .2 Bolts, nuts and washers: to ASTM A325.
 - .3 Welding materials: to CSA W48 series and certified by Canadian Welding Bureau. E49XX electrodes
 - .4 Shop paint primer: to CISC/CPMA2-75 solvent reducible alkyd, red oxide.
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- .5 Hot dip galvanizing: galvanize exterior steel, to CAN/CSA-G164, minimum zinc coating of 600 g/m².

2.3 FABRICATION

- .1 Fabricate structural steel in accordance with CAN/CSA-S16 and in accordance with approved shop drawings.
- .2 Continuously seal members by continuous welds where exposed to weather. Grind smooth.
- .3 Hot dip zinc galvanize steel members exposed to weather.

2.4 SHOP PAINTING

- .1 Clean, prepare surfaces and shop prime structural steel in accordance with CAN/CSA-S16.
- .2 Clean members; remove loose mill scale, rust, oil, dirt and foreign matter. Prepare surface according to NACE No.3/SSPC-SP-6.
- .3 Apply one coat of primer in shop to steel surfaces to achieve minimum dry film thickness of 15-25µm, except:
 - .1 Surfaces and edges to be field welded.
- .4 Apply paint under cover; on dry surfaces when surface and air temperatures are above 5 degrees C.
- .5 Maintain dry condition and 5 degrees C minimum temperature until paint is thoroughly dry.
- .6 Strip paint from bolts, nuts, sharp edges and corners before prime coat is dry.

Part 3 Execution

3.1 APPLICATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 GENERAL

- .1 Structural steel work: in accordance with CAN/CSA-S16.
 - .2 Welding: in accordance with CSA W59.
 - .3 Companies to be certified under Division 1 or 2.1 of CSA W47.1 for fusion welding of steel structures and/or CSA W55.3 for resistance welding of structural components.
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3.3 CONNECTION TO EXISTING WORK

- .1 Verify dimensions and condition of existing work, report discrepancies and potential problem areas to Departmental Representative for direction before commencing fabrication.

3.4 MARKING

- .1 Mark materials in accordance with CSA G40.20/G40.21. Do not use die stamping. When steel is to be left in unpainted condition, place marking at locations not visible from exterior after erection.

3.5 ERECTION

- .1 Erect structural steel, as indicated and in accordance with CAN/CSA-S16 and in accordance with approved erection drawings.
- .2 Field cutting or altering structural members: to approval of Departmental Representative.
- .3 Clean with mechanical brush and touch up shop primer to bolts, rivets, welds and burned or scratched surfaces at completion of erection.
- .4 Continuously seal members by continuous welds where indicated. Grind smooth.

3.6 FIELD QUALITY CONTROL

- .1 Inspection and testing of materials and workmanship will be carried out by testing laboratory designated by Departmental Representative.
- .2 Provide safe access and working areas for testing on site, as required by testing agency and as authorized by Departmental Representative.
- .3 Submit test reports to Departmental Representative within 2 weeks of completion of inspection.
- .4 Departmental Representative will pay costs of tests as specified in Section 01 29 83 - Payment Procedures for Testing Laboratory Services.

3.7 FIELD PAINTING

- .1 Paint in accordance with Section 09 91 23 - Interior Painting.
 - .1 Touch up damaged surfaces and surfaces without shop coat with primer to NACE No.3/SSPC-SP-6 except as specified otherwise. Apply in accordance: MPI Architectural Painting Specification Manual.
- .2 For exterior exposed steel, field applied paint to achieve galvanic protection, the dry extract to have a zinc concentration of at least 95%. The paint to resist expansion and shrinking once applied to the metal due to temperature variations. Paint to be approved by Departmental Representative.

3.8 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
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- .2 Waste Management: separate waste materials for reuse/recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

END OF SECTION

