

PART I General

I.1 REFERENCES

- .1 ASTM International
 - .1 ASTM A53/A53M-07, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 ASTM A269-08, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
 - .3 ASTM A307-07b, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- .2 CSA International
 - .1 CSA G40.20/G40.21-04(R2009), 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 CSA S16-09, Design of Steel Structures.
 - .4 CSA W48-06, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).
 - .5 CSA W59-M03(R2008), Welded Steel Construction (Metal Arc Welding) Metric.
- .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

I.2 SUBMITTALS FOR REVIEW

- .1 Provide Samples as per Section 01 33 00 – Submittal Procedures
- .2 Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
- .3 Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

I.3 QUALITY ASSURANCE

- .1 Conform to CSA W59.

I.4 PROJECT CONDITIONS

- .1 Field Measurements: For elements indicated to be field verified, the metal fabricator shall field verify measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication with existing conditions to avoid interferences. Allow minimum 25mm clearance from all overhead mechanical equipment. Where fabrications are in close proximity of required access of equipment for maintenance purposes, request clarification from Departmental Representative before proceeding.

I.5 QUALIFICATIONS

- .1 Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the place where the Project is located.

PART 2 Products

2.1 MATERIALS - STEEL

- .1 Steel Sections: ASTM A36.
- .2 Steel Tubing: ASTM A500, Grade B.
- .3 Plates: ASTM A283.
- .4 Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153 for galvanized components.
- .5 Welding Materials: Type required for materials being welded.
- .6 Shop and Touch-Up Primer: SPCC 15, Type I, red oxide.

2.2 FABRICATION GENERAL

- .1 Fit and shop assemble items in largest practical sections, for delivery to site.
- .2 Fabricate items with joints tightly fitted and secured.
- .3 Continuously seal joined members by continuous welds.
- .4 Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- .5 Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- .6 Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FABRICATION TOLERANCES

- .1 Squareness: 3mm maximum difference in diagonal measurements.
- .2 Maximum Offset Between Faces: 1.5mm.
- .3 Maximum Misalignment of Adjacent Members: 1.5mm.
- .4 Maximum Bow: 3mm in 1.2m.

- .5 Maximum Deviation From Plane: 1.5mm in 1.2m.

2.4 FINISHES - STEEL

- .1 Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- .2 Do not prime surfaces in direct contact with concrete or where field welding is required.
- .3 Prime paint items with one coat.

PART 3 Execution

3.1 EXAMINATION

- .1 Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- .1 Clean and strip primed steel items to bare metal where site welding is required.
- .2 Supply steel items required to be cast into concrete or embedded in masonry with setting templates to appropriate sections.

3.3 INSTALLATION

- .1 Install items plumb and level, accurately fitted, free from distortion or defects.
- .2 Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- .3 Field weld components indicated on shop drawings.
- .4 Obtain approval prior to site cutting or making adjustments not scheduled.
- .5 After erection, prime welds, abrasions, and surfaces not shop primed.

3.4 ERECTION TOLERANCES

- .1 Maximum Variation From Plumb: 6mm per story, non-cumulative.
- .2 Maximum Offset From True Alignment: 6mm.
- .3 Maximum Out-of-Position: 6mm.

3.5 SCHEDULE

- .1 The following Schedule is a list of principal items only. Refer to Drawings for items not specifically scheduled.
 - .1 Miscellaneous steel for support of mechanical units

END OF SECTION