



Structural Aluminum Fabrication

Part 1- General

1.1 Related Work Specified Elsewhere

- .1 Cast-in-Place Concrete Section 03300
- .2 Structural Precast Concrete Section 03410

1.2 Applicable Products

- .1 All structural aluminum platforms, landings, stairways, handrailing, ladders, grating, access hatches, checkerplate covers, trash baskets, vent pipes, safety cages, safety access handles, grab bars, climbing rungs.

1.3 Standards

- .1 Conform to CAN3-S157-M83 Strength Design in Aluminum.
- .2 Conform to CSA W59.2-M191 Welded Aluminum Construction.
 - a. CSA W47.1-M1987 Certification of Companies for Fusion Welding of Steel Structures.
 - b. CSA W47.2-M1987 Certification of Companies for Fusion Welding of Aluminum.
 - c. CSA W48 Welding Electrodes.
- .3 HA Series - CSA Standards for Aluminum and Aluminum Alloys.
- .4 Conform to the Ontario and National Building Codes.
- .5 Aluminum Association - designation for Aluminum Finishes.

1.4 Quality Assurance

- .1 Welding shall be undertaken only by a company Certified by the Canadian Welding Bureau to the requirements of CSA Standard W47.2-M1987, Certification of Companies for the Fusion Welding of Aluminum. Fabricator to provide proof of certification with shop drawing submission.
- .2 Submit copies of mill test reports showing chemical and physical properties and other details of aluminum to be incorporated into work, at least 2 weeks prior to fabrication of structural aluminum.

1.5 Shop Drawings

- .1 Prepare design and submit shop drawings including fabrication and erection documents consisting of connection and design details and loadings, shop details, erection diagrams and procedures, and material lists in accordance with Section 01340 - Shop Drawings, Product Data, Samples and Mockups.



1.5 Shop Drawings (continued)

- .2 Design live load in accordance with Section 4 of the O.B.C. but not less than 7.0 kPa.
- .3 Submit drawings stamped and signed by a qualified professional engineer licensed in the Province of Ontario.
- .4 Indicate cuts, copes, connections, holes, threaded fasteners, rivets, welds and other items. Indicate welds using welding symbols as accordance with CSA W59.2 Appendix A.

Part 2 – Products

2.1 Materials

- .1 Aluminum Extruded Shapes: to CSA HA.5-M1980, Alloys 6061-T6, 6063-T5, 6351-T6.
- .2 Aluminum Tread Plate to CSA HA.5-M1980 Alloy 6061-T6.
- .3 Stainless steel bolts, nuts, rivets, hinges, spring assists, chains, snap hooks to be 316 stainless steel.
- .4 Concrete Anchors to be Hilti Kwik Bolts or HVA Anchors in 304 or 316 stainless steel.
- .5 Neoprene 60 durometer isolation pads.
- .6 Sclair 2111 low density polythelene for end caps, anchors.
- .7 Bituminous paint to CAN/CGSB-1.108

2.2 Fabrication

- .1 Fabricate square, true, and accurate to required size, with joints closely fitted. Remove all burrs and sharp edges.
- .2 Ensure fasteners are vandal proof - secure bolts with nylon insert lock nuts.
- .3 Countersink all fasteners - ensure fasteners are flush.
- .4 Paint all surfaces coming in contact with concrete with one thick coat of bituminous paint or isolate with neoprene pads.