

TABLE OF CONTENTS

DIVISION 5

Section Title

05500 Metal Fabrication

METAL FABRICATIONS

1. GENERAL

1.1 Work Included

- .1 Shop fabricated ferrous metal items, galvanized and prime painted. The following is a list of principal items only. Refer to Drawings for items not specifically listed.
 - .1 Handrails, guardrails, kickplates
 - .2 Steel grating and flat plate (galvanized)
 - .3 Anchors, plates, bolts, nuts, screws, brackets, etc. required for Work of this Section

1.2 Design Code, Quality Assurance

- .1 Design and fabricate stairs, landings, handrails, and balustrades to conform to requirements of the National Building Code of Canada, 2005
- .2 Perform welding in accordance with requirements of CSA W59
- .3 Welding Work on all load carrying structures and assemblies is to be performed by a firm certified by the Canadian Welding Bureau to the requirements of CSA W47.1 in Division 2.

1.3 Shop Drawings

- .1 Submit Shop Drawings in accordance with Section 01300 - Submittals.
- .2 Clearly indicate profiles, sizes, connections, attachments, reinforcing, anchorage, size and type of fasteners and accessories.
- .3 Include erection drawings, elevations, and details where applicable.
- .4 Indicate welded connections using CISC standard welding symbols. Clearly indicate net weld lengths.
- .5 Shop Drawings and design briefs are to be signed and sealed by a Professional Engineer registered in the Province of Manitoba.

2. PRODUCTS

2.1 Materials

- .1 Steel: conforming to CAN/CSA-G40.21; Type W with minimum yield strength of 300 MPa.
- .2 Welding Materials: conforming to CSA W59
- .3 Bolts, Nuts, and Washers: conforming to ASTM A325 unless specified otherwise.

METAL FABRICATIONS

- .4 Concrete Anchors: Epoxy grout adhesive anchors with stainless steel threaded bolts, manufactured by Hilti (Canada) Ltd. where indicated.
- .5 Steel grating: style 30M-102M as manufactured by Fisher & Ludlow using steel bearing bars and cross bars.

2.2 Finishes

- .1 Primer: CISC/CPMA 2-75
- .2 Galvanizing: conforming to CAN/CSA-G164; minimum 610 g/m².
- .3 Touch-up damaged galvanizing with minimum two (2) coats of zinc rich primer.

2.3 General Fabrication

- .1 Verify all dimensions on-site prior to shop fabrication.
- .2 Fabricate items of sizes and profiles detailed on Drawings, with joints neatly fitted and properly secured.
- .3 Fit and shop assemble in largest practical sections, for delivery to Site.
- .4 Supply all components required for proper anchorage of miscellaneous metals. Fabricate anchorage and related components of same material and finish as metal fabrications, unless otherwise specified or shown.
- .5 Weld connections where possible, otherwise bolt connections. Counter-sink all exposed fastenings. Cut off bolts flush with nuts.
- .6 Accurately form all connections and joints with exposed faces flush, mitres and joints tight.
- .7 Exposed welds and metal sections shall be smooth and flush; grind or file if required.
- .8 Provide for flush welded or hairline butt field joints.
- .9 Shop fabricate openings in members for other building components. Reinforce openings to restore member to original design strengths.
- .10 Provide lugs, clips, brackets, hangers and struts as required for attaching miscellaneous metal items securely to building structure.
- .11 Thoroughly clean all surfaces of rust, scale, grease and foreign matter prior to prime painting or galvanizing.
- .12 Galvanize and prime paint items as shown. Do not shop prime surfaces in contact with or embedded in concrete or requiring field welding.

METAL FABRICATIONS

3. EXECUTION

3.1 Examination

- .1 Before starting erection, examine other Work which may affect this Work.
- .2 Notify the Contract Administrator of any conditions which would prejudice proper installation of the Work.
- .3 Commencement of erection Work implies acceptance of existing conditions.

3.2 Erection

- .1 Obtain Contract Administrator's permission prior to Site cutting or making adjustments which are not part of scheduled Work.
- .2 Install items plumb, square and level, fit accurately, and maintain free from distortion or defects detrimental to appearance and performance.
- .3 Make provision for erection stresses and temporary bracing. Keep Work in alignment at all times.
- .4 Replace items damaged in course of installation.
- .5 Perform required field welding. Exposed welds shall be smooth and flush; grind or file if required.
- .6 Perform necessary cutting and altering for the installation of Work of other Sections, and as indicated on Drawings. No additional cutting is to be done without the permission of the Contract Administrator.
- .7 Perform all field assembly bolting and welding to match standard of shop bolting and welding. Bolts and screws are to be concealed whenever possible.
- .8 After installation, touch up field bolts, nuts, welds, and scratched and damaged prime painted surfaces. Field touch-up primer to be same as shop primer. Touch up galvanized surfaces with two (2) coats of zinc rich primer.
- .9 Supply, to appropriate sections, items required to be cast into concrete and built into masonry, complete with necessary setting templates.

END OF SECTION