

**Part 1            General**

**1.1                SECTION INCLUDES**

- .1        Materials and installation for embeds for support of steel joists to masonry walls, masonry support/shelf angles, and miscellaneous steel fabrications detailed.

**1.2                RELATED SECTIONS**

- .1        Section 01 33 00 – Submittal Procedures
- .2        Section 01 61 00 – Common Product Requirements
- .3        Section 01 74 19 – Construction/Demolition Waste Management And Disposal
- .4        Section 03 05 10 – Cast-in-Place Short Form
- .5        Section 04 05 10 – Common Work Results for Masonry
- .6        Section 05 21 00 – Steel Joist Framing
- .7        Section 05 31 00 – Steel Deck

**1.3                REFERENCES**

- .1        American Society for Testing and Materials (ASTM):
  - .1        ASTM A307-10 – Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
  - .2        ASTM C1107/C1107M-08 – Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
- .2        Canadian General Standards Board (CGSB):
  - .1        CAN/CGSB-1.40-97 – Anti-corrosive Structural Steel Alkyd Primer
- .3        Canadian Standards Association (CSA International):
  - .1        CSA-G40.20/G40.21-04(R2009) – General Requirements for Rolled or Welded Structural Quality Steel.
  - .2        CSA W59-03(R2008) – Welded Steel Construction (Metal Arc Welding) (Imperial Version).
  - .3        CSA W48-06 – Filler Metals and Allied Materials for Metal Arc Welding (Developed in cooperation with the Canadian Welding Bureau)

**1.4                SUBMITTALS**

- .1        Product Data:
  - .1        Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00.
- .2        Shop Drawings

- .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

## **1.5 DELIVERY, STORAGE, AND HANDLING**

- .1 Packing, Shipping, Handling and Unloading:
  - .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00.

## **1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and other packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal materials from landfill to metal recycling facility.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grade 300W.
- .2 Welding materials: to CSA W59.
- .3 Welding electrodes: to CSA W48 Series.
- .4 Bolts and anchor bolts: to ASTM A307, Grade A
- .5 Grout: to ASTM C1107/C1107M; factory packaged; non-staining, non-corrosive and non-gaseous; type specifically recommended by manufacturer for application.
- .6 Shop coat primer: to CAN/CGSB-1.40.

### **2.2 FABRICATION**

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

### **2.3 SHOP PAINTING**

- .1 Apply one shop coat of primer to metal items, with exception of concrete encased items.
- .2 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.

**Part 3 Execution**

**3.1 ERECTION**

- .1 Do welding work in accordance with CSA W59.
- .2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .3 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .4 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.
- .5 Touch-up field welds, bolts and burnt or scratched surfaces after completion of erection with primer.

**3.2 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**