

**Part 1 General****1.1 RELATED SECTIONS**

- .1 Division 01-General Requirements

**1.2 SECTION INCLUDES**

- .1 Work of this section includes eavestroughing and related accessories.

**1.3 REFERENCES**

- .1 The Aluminum Association Inc. (AA)
  - .1 Aluminum Sheet Metal Work in Building Construction-2000.
  - .2 AA DAF45-2003, Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials (ASTM International)
  - .1 ASTM A591/A591M-98, Standard Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Mass Applications.
  - .2 ASTM A653/A653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - .3 ASTM B32-08, Standard Specification for Solder Metal.
  - .4 ASTM D523-08, Standard Test Method for Specular Gloss.
  - .5 ASTM D822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .3 Canadian Roofing Contractors Association (CRCA)
  - .1 Roofing Specifications Manual 2011
- .4 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-37.5-M89, Cutback Asphalt Plastic Cement.
- .5 Canadian Standards Association (CSA International)
  - .1 CSA-A440-00,A440.1-00, Windows / Special Publication A440.1-00, User Selection Guide to CSA Standard A440-00, Windows.
  - .2 CSA B111-1974(R1998), Wire Nails, Spikes and Staples.
- .6 Green Seal's Standard
  - .1 GS-11, January 1997 requirements (VOC emissions from paints must not exceed the limits in this standard).
  - .2 GS-03, May 1993 requirements (VOC content of anti-corrosive coatings must be less than the limits in this standard).

**1.4 SAMPLES**

- .1 Submit shop drawings in accordance with Section 01 00 10 – General Instructions.

- .2 Submit duplicate 50 x 50mm samples of each type of sheet metal material, colour and finish.

## **1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Place materials defined as hazardous or toxic in designated containers.
- .5 Ensure emptied containers are sealed and stored safely for disposal away from children.
- .6 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .7 Unused paint and sealant material must be disposed of at an official hazardous material collections site as approved by Departmental Representative.
- .8 Unused paint and sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .9 Fold up metal banding, flatten and place in designated area for recycling.

## **Part 2 Products**

### **2.1 SHEET METAL MATERIALS**

- .1 Zinc coated steel sheet: 0.7mm (22ga) thickness, commercial quality to ASTM A653/A653M, with Z275 designation zinc coating.

### **2.2 PREFINISHED STEEL SHEET**

- .1 Prefinished steel with factory applied polyvinylidene fluoride.
  - .1 Class F2S.
  - .2 Colour to match enclosure and to be selected by Departmental Representative from manufacturer's extended range.
  - .3 Specular gloss: 30 units +/- in accordance with ASTM D523.
  - .4 Coating thickness: not less than 22 micrometres.
  - .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
    - .1 Outdoor exposure period 2500 hours.

**2.3 PREFINISHED ALUMINUM SHEET**

- .1 Finish: factory applied coating to CAN/CGSB-93.1 supplemented and amended as follows:
  - .1 Class F2S.
  - .2 Colour to match enclosure and to be selected by Departmental Representative, from manufacturer's standard range.
  - .3 Specular gloss: 30 units +/- in accordance with ASTM D523.
  - .4 Coating thickness: not less than 22 micrometres.
  - .5 Outdoor exposure period: 2500 hours.
  - .6 Exposure period for humidity resistance: 5000 hours.
  - .7 Plain 0.9mm (20 ga) minimum thickness.
- .2 Thickness specified for prefinished aluminum sheet applies to base metal.

**2.4 ACCESSORIES**

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to CAN/CGSB 37.5.
- .3 Underlay for metal flashing: dry sheathing to CAN/CGSB-51.32 No. 15 perforated asphalt felt to CSA A123.3.
- .4 Sealants: Multi component polyurethane to CAN/CGSB-19.24, Type II, Class B.
- .5 Cleats: of same material, and temper as sheet metal. Thickness same as sheet metal being secured.
- .6 Fasteners: of same material as sheet metal, to CSA B111, ring thread flat head roofing nails of length and thickness suitable for metal flashing application.
- .7 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .8 Touch-up paint: as recommended by prefinished material manufacturer.

**2.5 FABRICATION**

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable CRCA 'FL' series details.
- .2 Fabricate aluminum flashings and other sheet aluminum work in accordance with AAI-Aluminum Sheet Metal Work in Building Construction.
- .3 Form pieces in 2400mm maximum lengths. Make allowance for expansion at joints.
- .4 Hem exposed edges on underside 12mm. Mitre and seal corners with sealant.
- .5 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .6 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

**2.6 METAL FLASHINGS**

- .1 Form flashings, copings and fascias to profiles indicated of 0.7mm (22ga) thick prefinished steel.

**2.7 REGLETS AND CAP FLASHINGS**

- .1 Form metal cap flashing of 0.7mm (22ga) thick sheet metal for base flashings as detailed in accordance with CRCA FL series details, FL. Provide slotted fixing holes and steel/plastic washer fasteners.

**2.8 EAVES TROUGHS AND DOWNPIPES**

- .1 Form eaves troughs and downpipes from 0.9 mm thick (20ga) prefinished aluminum sheet metal.
- .2 Size of eaves trough to be a minimum of 127mm (5").
- .3 Provide goosenecks, strainer baskets and necessary fastenings.
- .4 Form 305 x 600 mm splash pans from 127 mm thick (5") precast concrete.

**2.9 ALUMINUM FINISHES**

- .1 Finish exposed surfaces of aluminum components in accordance with AA DAF45.
  - .1 Integral colour anodic finish: colour to match enclosure sample by Departmental Representative.
- .2 Appearance and properties of anodized finishes designated by Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative: to AAMA/WDMA/CSA-101/I.S.2/A440, for coating Classes 1, 2 and 3 respectively.

**Part 3 Execution****3.1 INSTALLATION**

- .1 Install sheet metal work in accordance with CRCA FL series details.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 100mm.
- .4 Counter flash bituminous flashings at intersections of roof with vertical surfaces and curbs. Flash joints using S-lock forming tight fit over hook strips.
- .5 Lock end joints and caulk with sealant.
- .6 Install surface mounted reglets true and level, and caulk top of reglet with sealant.
- .7 Insert metal flashing under cap flashing to form weather tight junction.
- .8 Caulk flashing at cap flashing with sealant.

- .9 Install pans, where shown around items projecting through roof membrane.

### **3.2 EAVES TROUGHS AND DOWNPIPES**

- .1 Install eaves troughs and secure to building at 610 mm on centre with eaves trough spikes through spacer ferrules.
  - .1 Slope eaves troughs to downpipes as indicated.
  - .2 Seal joints watertight.
- .2 Install downpipes and provide goosenecks back to wall.
  - .1 Secure downpipes to wall with straps at 1800 mm on centre; minimum two straps per downpipe.
  - .2 Connect downpipes to drainage system and seal joint with plastic cement.
- .3 Install splash pans as indicated.

**END OF SECTION**