

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 41 99 - Demolition for Minor Works.
- .2 Section 04 05 00 - Common Work Results for masonry.
- .3 Section 06 10 00 - Rough Carpentry.
- .4 Section 06 15 00 - Wood Decking.
- .5 Section 07 26 00 - Vapour retarders.
- .6 Section 07 61 00 - Sheet Metal Roofing.
- .7 Section 07 92 00 - Joint Sealants.
- .8 Section 26 41 13 - Lightning Protection for Structures.
- .9 Section 26 41 13.01 - Early Streamer Emission Lightning Protection System.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A240/A240M, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - .2 ASTM A606, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
 - .3 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .4 ASTM B32, Standard Specification for Solder Metal.
 - .5 ASTM B370, Standard Specification for Copper Sheet and Strip for Building Construction.
 - .6 ASTM D523, Standard Test Method for Specular Gloss.
 - .7 ASTM D822, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .2 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual 2011.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.32, Sheathing, Membrane, Breather Type.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA B111, Wire Nails, Spikes and Staples.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

- .1 Material Safety Data Sheets (MSDS).
- .6 South Coast Air Quality Management District (SCAQMD), California State
 - .1 SCAQMD Rule #1113, Architectural Coatings.
 - .2 SCAQMD Rule #1168, Adhesives and Sealants.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Shop Drawings:
 - .1 Shop drawings are not required. However, the Contractor will have to conduct a pre-installation meeting one month prior to commencing work of this Section, in presence of the sheet metal roofer supervisor and the Departmental Representative. Refer to item 1.4 QUALITY ASSURANCE.
- .4 Samples:
 - .1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, finishes and colours.
- .5 Quality assurance submittals: submit following in accordance with Section 01 45 00 - Quality Control.
 - .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures.

1.4 QUALITY ASSURANCE

- .1 Pre-Installation Meetings: convene pre-installation meeting one month prior to beginning work of this Section, with sheet metal roofer and Departmental Representative in accordance with Section 01 32 16.07 - Construction Progress Schedule - Bar (GANTT) Chart to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:

- .1 Separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 WARRANTY

- .1 For Work in this Section 07 62 00 - Sheet Metal Flashing and Trim, the 5 years warranty period **is extended to 10 years**.

Part 2 Products

2.1 SHEET METAL MATERIALS

- .1 Copper sheet: to ASTM B370, H00 temper designation, of 20 oz./sq. ft. minimum weight (0.68 mm thick). Metal sheets: 762 x 2440 mm maximum.

2.2 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Underlay for metal flashing: self-adhering membrane for high temperature applications composed of two waterproof materials (a high density, cross laminated polyethylene film coated on one side with a layer of butyl rubber adhesive). Refer to 07 26 00 - Vapour Retarders.
- .3 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
- .4 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.
- .5 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.
- .6 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .7 Solder: to ASTM B32, alloy composition 50% tin / 50 % lead.
- .8 Flux: rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.

2.3 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work as indicated.
- .2 Form pieces in 2400 mm maximum lengths.
 - .1 Make allowance for expansion at joints.
- .3 Hem exposed edges on underside 12 mm.
 - .1 Mitre and seal corners with sealant.
 - .2 Weld copper sheet edges.
- .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .5 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.4 METAL FLASHINGS

- .1 Form flashings, copings and fascias to profiles indicated of 20 oz./sq. ft. minimum weight (0.68 mm thick) copper sheets.

2.5 SLEEVES

- .1 Refer to Section 07 61 00 - Sheet Metal Roofing.

2.6 COUNTER FLASHINGS

- .1 Form recessed counter flashings with sheet metal of same type and thickness as for flashings, and inserted them as detailed in the architectural drawings.

2.7 EAVES TROUGHS AND DOWNPIPES

- .1 Refer to Section 07 61 00 - Sheet Metal Roofing.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- .1 Install sheet metal work as detailed.
- .2 Use concealed fastenings except where approved by Departmental Representative before installation.
- .3 Provide underlay under sheet metal.
 - .1 Secure in place and lap joints 100 mm.
- .4 Counterflash copper flashings at intersections of roof with vertical surfaces (ex.: chimney stalks).
 - .1 Flash joints using S-lock forming tight fit over hook strips, as detailed.
- .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 into reglets to form weather tight junction.
- .8 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.
- .9 Caulk flashing on compressive back rod at joints with sealant.

3.3 EAVES TROUGHS AND DOWNPIPES

- .1 Refer to Section 07 61 00 - Sheet Metal Roofing.

3.4 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.5 CLEANING

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .3 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION