

1 GENERAL

1.01 RELATED REQUIREMENTS

- .1 Division 1 - General Requirements

1.02 REFERENCES

- .1 ASTM International
 - .3 ASTM A 653/A 653M-10, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .4 ASTM A 792/A 792M-10, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot Dip Process.
 - .5 ASTM B 32-08, Standard Specification for Solder Metal.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 National Research Council Canada (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC)
 - .1 CCMC-2011, Registry of Product Evaluations.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for [sheet metal roofing] and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
 - .1 Submit 300 x 300 mm samples of each sheet metal material.

1.04 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect sheet metal roofing from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

2 PRODUCTS

2.01 SHEET METAL MATERIALS

- .1 24 gauge Galvanized aluminum, flat panel, width 406mm with a silicone modified polyester coating.

2.02 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to CAN/CGSB-37.5.
- .3 Breathable underlayment: 3-ply spun bonded polypropyrolene fabric. Waterproof, U.V. stabilized, rot proof and tear resistant
- .4 Slip sheet: reinforced sisal paper or a heavy felt kraft paper.
- .5 Sealant: Caulking see Section 07 92 00 - Joint Sealants.
- .7 Cleats: of same material, and temper as sheet metal:50 mm minimum wide.
 - .1 Thickness same as sheet metal being secured.
- .8 Fasteners: As per manufacturers requirements, concealed.
- .9 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .10 Ice clips: 2 per panel. Same material as sheet metal.
- .11 Eave Protection: ASTM D 1970/D 1970M with high softening point. Self-adhesive, self-sealing composite sheet membrane composed of high-density, cross laminated polyethylene and rubberized asphalt.

2.03 FABRICATION

- .1 Fabricate aluminum sheet metal in accordance with AA ASM-35.
- .2 Form individual pieces in 2400 mm maximum lengths. Make allowances for expansion at joints.
- .3 Hem exposed edges on underside 12 mm, mitre and seal.
- .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .5 Apply minimum 0.2 mm dry film thickness coat of plastic cement to both faces of dissimilar metals in contact.

3 EXECUTION

3.01 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sheet metal roofing installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied Departmental Representative.

3.02 INSTALLATION

- .1 Use concealed fastenings except where approved in writing by Departmental Representative before installation.
- .2 Include underlay under sheet metal roofing.
 - .1 Secure in place and lap joints 100 mm minimum.
- .3 Apply slip sheet over asphalt felt underlay to prevent bonding between sheet metal and felt.
 - .1 Secure with anchorage and lap joints 50 mm minimum in direction of waterflow.
- .8 Form standing seams in direction of water-flow and make watertight.

3.03 STANDING SEAM ROOFING

- .1 Use 24 gauge galvanized aluminum to make roofing with standing seams 406mm on centre without straight run of standing seam exceeding 10 m.
- .2 Fold lower end of each pan under 20 mm.
 - .1 Slit fold 25 mm away from corner to form tab where pan turns up to make standing seam.
 - .2 Fold upper end of each pan over 50 mm.
 - .3 Hook 20 mm fold on lower end of upper pan into 50 mm fold on upper end of underlying pan.
- .3 Apply sheet metal roofing beginning at eaves. Loose lock pans to valley flashing and edge strips at eaves and gable rakes.
- .4 Finish standing seams 25 mm high on flat surfaces. Bend up one side edge 40 mm and other 45 mm.
 - .1 Make first fold 6 mm wide single fold and second fold 12 mm wide, providing locked portion of standing seam with 5 plies in thickness.
 - .2 Fold lower ends of seams at eaves over at 45 degrees angle.
 - .3 Terminate standing seams at ridge and hips by turning down in tapered fold.
- .5 Drip Edges
 - .1 Edges: Extend flashing up under roof edge minimum 150 mm. Cleat upper edges and provide lower drip edge with 38mm extension.

- .6 Sidewall:
 - .1 Extend flashings up under cedar shingles of sidewall minimum 100 mm.

3.04 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.05 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by sheet metal roofing installation.

END OF SECTION