## Part 1 General

### 1.1 REFERENCES

.1 Aluminum Association

.1 AA DAF45-03, Designation System for Aluminum Finishes.

.2 American Society for Testing and Materials International (ASTM)

.1 ASTM A653/A653M-[06a], Standard Specification for Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.

.2 ASTM A1008/A1008M-06a, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.

.3 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S102-03, Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

### 1.2 SUBMITTALS

.1 Provide samples in accordance with Specification E3 – Shop Drawings.

.1 Submit one representative module of metal linear ceiling system.

.2 Sample module to show basic construction and assembly, treatment at walls, recessed fixtures, splices, finishes.

.2 Provide shop drawings in accordance with Specification E3 – Shop Drawings

.1 Shop drawings: submit drawings stamped and signed by professional engineer registered or licensed in Province of Saskatchewan, Canada.

.2 Submit reflected ceiling plans for special patterns as indicated.

.3 Indicate lay-out, hanger spacing and fastening details and lateral bracing and accessories.

.3 Quality Assurance Submittals:

.1 Manufacturer's Instructions: manufacturer's installation instructions.

### 1.3 QUALITY ASSURANCE

.1 Provide mock-up for evaluation of surface finishes and workmanship.

.2 Provide initial production units for job-site assembly with other materials for review.

.3 Co-ordinate type and location of mock-ups with project requirements. Accepted units will be used as standard for acceptance of production units. Remove and replace units which are not accepted.

.4 Do not proceed with remaining work until workmanship, colour, and finish are reviewed by Departmental Representative.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

**1.4 DELIVERY, STORAGE AND HANDLING**

.1 Packing, shipping, handling and unloading:

.1 Deliver materials to site in manufacturer's original, unopened containers with brand name and type marked on packaging.

.2 Handle and store materials in dry, watertight enclosures away from heavy traffic areas and in manner to prevent damage.

.3 Store linear metal ceiling units at same temperature and moisture conditions as where they are to be installed for minimum of 48 hours before installation.

**1.5 SITE CONDITIONS**

.1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.

**1.6 SCHEDULING**

.1 Ensure following work is completed before installation of ceilings begins.

.1 Mechanical, electrical, other work above ceiling: completed.

**1.7 MAINTENANCE**

.1 Extra Materials:

.1 Provide 1 carton containing mixture of each type and colour of linear strips, in lengths to match installed linear strips.

.2 Extra materials to be from same production run as installed materials.

.3 Identify each carton and its contents.

.4 Deliver to Departmental Representative, upon completion this section's work

.5 Store where directed by Departmental Representative.

**Part 2 Products**

**2.1 MATERIALS**

.1 Basic materials:

.1 Aluminum sheet: Aluminum Association alloy AA1100.

.2 Linear strips: 22 mm deep channel shaped strips of minimum 0.635 mm thick, aluminum steel sheet, to suit 50 mm module. Box square edge profile. Acceptable product: Hunter Douglas Luxalon Box 2 .

.1 Snapped on, and securely retained on carriers without separate fasteners.

.2 Face perforated with 1 mm diameter holes over approximately 20% of surface area.

.3 Space between strips to be closed with recessed matching coloured inserts.

.4 Supply, ventilation slots on strip flanges providing for air injection of at least 2100 $mm^2$ per metre of strip.

.5 Finish: Factory applied brushed finish.

.3 Carrier: manufacturer's standard exterior carrier with integral clips for snap-on installation of linear strips to 100 mm module, fabricated from aluminum with black baked enamel finish.

.4 Furring channels:

.1 To manufacturers recommended size and type.

.5 Hangers: straight lengths of 2.5 mm diameter, galvanized, soft annealed steel wire commercial quality.

.6 Tie wires: 1.6 mm diameter, galvanized, soft annealed steel wire.

.7 Edge seal: black urethane foam, 12 mm thick, 25 mm wide; adhesive coated on one 12 mm edge.

.8 Edge trim and seal: manufacturer's standard wall moulding for ventilated ceilings, colour to match strips.

.9 Accessories: splices, clips, end closers, side closers, light and air seals, adjustable panel clips, as recommended by ceiling system manufacturer.

## Part 3 Execution

### 3.1 MANUFACTURER'S INSTRUCTIONS

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

### 3.2 ERECTION

.1 Do not erect linear strips until work above ceiling has been inspected by Departmental Representative.

.2 Secure hangers to overhead structure using attachment methods according to manufacturers instructions.

.3 Suspend hangers from building structural members plumb and free from contact with insulation or other objects within ceiling plenum.

.4 Splay hangers where necessary to avoid obstructions and brace to offset resulting horizontal forces.

.5 Install supplemental suspension members and hangers in form of trapezes or equivalent devices where obstructions interfere with required hanger spacing.

.6 Ensure supplemental members are sized to support ceiling loads within performance limits of referenced standards.

.7 Attach hangers securely and appropriately to structure by attaching to inserts and eyescrews.

.8 Secure hangers in manner to prevent deterioration or failure due to age, corrosion or elevated temperatures.

.9 Maximum spacing of hangers or supports: 1200 mm on centre along carrier and 300 mm from ends. Maximum spacing of carriers: 1200 mm on centre and 150 mm from ends of linear strips. Support each strip on at least 3 carriers. Stagger end joints.

.10 Lay out linear strips in direction indicated. Provide balanced borders at room perimeter.

.11 Provide openings for recessed fixtures.

.12 Locate ceiling access doors directly under items which require access.

.13 Scribe and cut metal panel units for accurate fit at borders and other ceiling penetrations.

.14 Provide hanger at each corner of openings of fixtures.

.15 Terminate strip ends 25 mm from walls and other vertical surfaces. Use factory made closed end units where ends are exposed to view.

.16 Install edge trim at perimeter, and penetrations.

.17 Install edge mouldings at edge of each linear metal ceiling area and at locations where edge of units would otherwise be exposed after completion of Work. Level mouldings with ceiling suspension system to 3 mm in 3600 mm.

.18 Fasten mouldings to masonry or concrete with machine screws into lead-shield-type anchors drilled into construction.

.19 Fasten mouldings to hollow masonry or stud construction with toggle bolts of similar self expanding screw anchors.

.20 Align panel joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions, unless indicated differently.

.21 Install panels with butt joints using internal concealed panel splices and in joint configurations shown in reflected ceiling plan.

.22 Use manufacturer's field cut-off device for 90 degrees and 45 degrees end cuts.

.23 Install between linear strips where required.

.24 Construct expansion joint by terminating carriers and linear strips to provide 25 mm wide space at building expansion joints. Use closed end units.

.25 Supply and install Z shaped metal trim at each side of expansion joints. Design to accommodate plus or minus 25 mm movement and maintain visual closure. Finish to match linear strips.

.26 Install prefabricated access panels in ceiling where indicated.

.27 Provide plenum access by installing 1200 mm long exposed linear ceiling strips with splices where indicated.

## 3.3 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.

**3.4 CLEANING**

.1 Clean dirty of discoloured surfaces of linear metal ceiling units in accordance with manufacturer's written recommendations.

.2 Ensure units are free from defects.

.3 Remove and replace damaged or improperly installed units.

**END OF SECTION**