

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 02 41 99 – Demolition for minor works.

1.2 REFERENCES

- .1 Aluminum Association
 - .1 AA DAF45-03, Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A 653/A 653M-06a, Standard Specification for Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.
 - .2 ASTM A 1008/A 1008M-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 ASTM C 665-06, Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - .4 ASTM C 1063-06, Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.
 - .5 ASTM C 1320-05, Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.
- .3 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-[03], Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 ACCEPTABLE MATERIALS OR PRODUCTS

- .1 When material or products are prescribed by their trademark, refer to the Instructions to Bidders in order to understand the procedure concerning the request for approval of replacement materials or products.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Submit one representative module of each proposed type of metal linear ceiling system.
 - .2 Sample module to show basic construction and assembly, treatment at walls, recessed fixtures, splices, finishes.
- .4 Quality Assurance Submittals:
 - .1 Manufacturer's Instructions: manufacturer's installation instructions.

1.5 SHOP DRAWING

- .1 Submit required shop drawings in accordance with section 01 33 00 - Submittal procedures.

- .2 Submit reflected ceiling plans while coordinating penetrations and articles rising from ceiling. These should include the following details:
 - .1 Details and reflexion of ceiling.
 - .2 Illustrate properly all components.
 - .3 Details and assembly connections of system to existing building's components.
 - .4 Location of light fixtures, diffusers, speakers, sprinklers and all other finishing element.
 - .5 Hanging details for ceiling's suspension system.
 - .6 List of materials, fastener dimensions and any special detail.
- .3 Suspension system shop drawings must be signed and sealed by an engineer member of the order of engineers of Quebec.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements, supplemented as follows:
 - .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.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for [reuse] [and] [recycling] in accordance with Section 01 74 21 - Construction/Renovation/Demolition (CRD) Waste Management and Disposal.

1.7 SITE CONDITIONS

- .1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.
- .2 Ventilation:
 - .1 Provide continuous ventilation, during and after completion of installation.
- .3 Temperature and Humidity:
 - .1 Maintain air temperature of installation area above 16 degrees C and below 27 degrees C for 48 hours prior to, during, and for 48 hours following installation. Maintain air temperature above 13 degrees C thereafter.
 - .2 Maintain relative humidity below 71% for 48 hours prior to, during, and for 48 hours following installation.
 - .3 Closely approximate temperature and humidity to levels expected upon completion and occupation.

1.8 SEQUENCING

- .1 Layout light fixture and sprinkler head penetrations at center of panel width.
 - .2 Plan HVAC inlets and outlets to occur within center of panel system or provide for equal distance on each side parallel to length of panels.
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1.9 SCHEDULING

- .1 Ensure following work is completed before installation of ceilings begins.
 - .1 Plastering and gypsum board finishing: completed and dry.
 - .2 Mechanical, electrical, other work above ceiling: completed.
 - .3 Heating, ventilating and air-conditioning systems: installed and operating.

1.10 MAINTENANCE

- .1 Extra Materials:
 - .1 Provide extra materials of linear metal ceiling components, and special maintenance tools in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Provide 1 carton of linear strips, in lengths to match installed linear strips.
 - .3 Extra materials to be from same production run as installed materials.
 - .4 Identify each carton and its contents.
 - .5 Deliver to Departmental Representative, upon completion this section's work.
 - .6 Store where directed by Departmental representative.

PART 2 – PRODUCTS

2.1 MATERIALS

- .1 Metal linear ceiling:
 - .1 In the first place, use recuperated ceiling sections. For repairs, accepted product: PARALINE linear ceiling system, as distributed by GCG, mirror finish to match existing.
- .2 Carrier: manufacturer's standard interior carrier with integral clips for snap-on installation of linear strips to module, to match existing.
- .3 Hangers: straight lengths of 2.5 mm diameter, galvanized, soft annealed steel wire commercial quality.
- .4 Tie wires: 1.6 mm diameter, galvanized, soft annealed steel wire.
- .5 Edge seal: black urethane foam, 12 mm thick, 25 mm wide; adhesive coated on one 12 mm edge.
- .6 Edge trim and seal: manufacturer's standard wall molding for ventilated ceilings, color to match strips.
- .7 Sound Absorptive Pads:
 - .1 Fiberglass batt insulation with black coating on one side, completely filling width and length between carriers.
 - .2 Joined at panel centers.

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.
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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 acceptable to Departmental Representative.
 - .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 countersplay 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. [Seal junctures with edge seal [and seal intersecting linear strip flanges] to minimize unwanted air infiltration between plenum and space below].
 - .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.
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- .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 acoustic media over entire linear ceiling area to ensure continuous black appearance between linear strips.
- .24 Install between linear strips where required.
- .25 Construct expansion joint by terminating carriers and linear strips to provide 25 mm wide space at building expansion joints. Use closed end units.
- .26 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.
- .27 Install prefabricated access panels in ceiling where indicated.
- .28 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 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 Clean dirty or discolored surfaces of linear metal ceiling units in accordance with manufacturer's written recommendations.
- .3 Ensure units are free from defects.
- .4 Remove and replace damaged or improperly installed units.

END OF SECTION
