

1 GENERAL

1.1 CONTENTS OF THE SECTION

- .1 Requirements regarding sustainable development aiming at the construction, at the control and at the exploitation.
- .2 Plafond consisted of panels of ceiling in drilled metal, satiny silver such as model " Celebration / System of suspension DXF Donn Fineline " of CGC equivalent approved by the ministerial representative.
- .3 Suspended ceilings acoustical panels : " Olympia Micro KlimaPlus and suspension DX/DXL Donn " of CGC or equivalent approved by the ministerial representative.

1.2 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal procedures
- .2 Section 01 74 21 - Construction/démolition waste management and disposal
- .3 Sections as for connectings in the conduits of blowing and resumption of air.
- .4 Sections as for the system ventilation.
- .5 Sections as for the filerie and for the electrical connection of the devices of lighting.

1.3 REFERENCES

- .1 ASTM International
 - .1 ASTM C 635/C 635M-07 Standard Specifications for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
 - .2 ASTM C 636/C 636M-08, Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-92.1-M89, Sound Absorptive Prefabricated Acoustical Units.
- .3 CSA International
 - .1 CSA C22.2 No.9.0-96(R2011), General Requirements for Luminaires.
 - .2 CAN/CSA-C22.2 No.74-96(R2010), Equipment for Use with Electric Discharge Lamps.
- .4 Ceiling Systems Installation Handbook (CISCA)
- .5 American National Standard Institute (ANSI)/Illuminating Engineering Society of North America (IESNA)
 - .1 ANSI/IESNA RP-1-04, American National Standard Practice for Office Lighting.

1.4 DESIGN AND PERFORMANCE REQUIREMENTS

- .1 Design integrated ceiling system to provide:
 - .1 Noise reduction coefficient (NRC) 0.65 to 0.95.

- .2 Design Requirements: maximum deflection: 1/360th of span to ASTM C 635/ASTM C635M deflection test.
- .3 Full compliance with Illuminating Engineering Society of North America criteria for control of direct glare, visual comfort probability (VCP) and ANSI/IESNA RP-1.
- .4 Material: steel painted perforated with sound backing.

1.5 MANAGEMENT AND ELIMINATION OF WASTE

- .1 Sort out waste with the aim of their reuse and of their recycling with Section 01 74 21 Construction/Demolition Waste Management Disposal.

1.6 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 [ceiling assemblies and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Indicate layout of ceiling suspension system, location and sizes of air diffusers, light fixture support method, complete photometric data for light fixtures.
- .4 Samples:
 - .1 Submit samples of integrated ceiling components as follows:
 - .1 Duplicate 300mm x 300mm size samples of each type of acoustical units and of each metal suspension components.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- .1 Extra Stock Materials:
 - .1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Supply and deliver 1 carton for the acoustic tiles " Olympia Micro Climaplus" and 2 panels of every size for the metallic drilled panels "Celebration".
 - .3 Supply and deliver 3 m of metal suspension components for each room or area installed.
 - .3 Supply maintenance materials of same production run as installed materials.
 - .4 Store maintenance materials where directed. Identify contents of cartons.

1.8 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Storage and Handling Requirements:
 - .1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect ceiling assembly materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

1.9 Environmental Requirements:

- .1 Do not install system or any parts until space is enclosed and weatherproof, wet-work is complete and dry, work above installation is complete and space temperature and humidity has been maintained as designed for occupancy
- .2 Coordinate with other work including mechanical and electrical work and partition systems. Installation of conduit and ductwork above suspension system shall be complete before installation of suspension system.

1.10 Quality assurance

- .1 Qualification of the subcontractors: the installer has to possess experience of 3 years in the installation of ceiling system specified and be accredited by the manufacturer.

1.11 WARRANTY

- .1 Provide 10 year warranty for manufacturer's defects, chalking, peeling, and fading.

2 PRODUCTS

2.1 MATERIALS

- .1 Suspension system:
 - .1 Metal suspension: heavy duty system to ASTM C 635, factory-mitred ends.
 - .2 Metal suspension
 - .1 Main Tees: FINELINE® double web design, 45mm -high, rectangular top bulb and 8mm -deep x 14mm "-wide bottom face centered recessed section reveal 6mm -wide.
 - .2 Cross Members: FINELINE® double web design, 45mm-high, rectangular top bulb and 8 mm-deep x 14mm -wide bottom face centered recessed section reveal 6mm -wide.
 - .3 Recycled Content: 48.7%
 - .4 System suspension for ceilings panels perforated metal:
 - .5 Products: Donn Brand Fineline DXF/DXLF Suspension System or equivalent approved by Ministerial Representative.
 - .3 Suspension exposed tee bar grid components: shop painted white. Components die cut.
 - .1 Main tee with double web, rectangular bulb and 25 mm rolled cap on exposed face.
 - .2 Cross tee with rectangular bulb; web extended to form positive interlock with main tee; lower flange extended and offset to provide flush intersection.
 - .3 System suspension for acoustics ceiling "Olympia ClimaPlus"
 - .4 Products: DX/DXL Donn - CGC Suspension System or equivalent approved by Ministerial Representative.
- .2 Acoustic units:
 - .1 Metal ceiling panels
 - .1 Aluminum panels manufactured from premium metal, painted metal that form a continuous interlock with the FINELINE Suspension System.
 - .2 Panel finishes shall be: painted in color/finish # Silver Satin BIC 3071.

- .3 Panels shall be perforated D250 (11 % of surface perforated)
- .4 Acoustical material : Acoustibond Backer: BIC 3023
- .5 Sizes: see indications to drawings
- .6 Accessories: UA-25 molding: Channel shape, 25mm x40mm x 13mm.
T15 panel hold-down clip: for cut perimeter panels in UA-25 molding.
- .7 Product: **Celebration metal ceiling panels**, manufactured by USG (United States Gypsum Company, USG Interiors), Chicago, IL, USA, in compliance with applicable ASTM Standard or equivalent approved by Ministerial Representative.
- .2 Acoustic elements for hanging ceilings:
 - .1 Standard specifications E1262, Type III, Formula 2
 - .2 ASTM E1264 classification Type III, Form 2, Pattern CE
 - .3 ASTM E84 surface burning characteristics: Class A, Flame spread: 25, Smoke developed: 50
 - .4 Size: 610x610x19mm
 - .5 NRC: 0,60
 - .6 Light reflectance: 0,86.
 - .7 Produced: Acoustic panels of ceiling **Olympia Micro ClimaPlus** Panels .60 NRC # 4750 of the manufactured by USG or equivalent approved by Ministerial Representative.
- .3 Hanger wire: galvanized soft annealed steel wire: 3.6 mm diameter for access tile ceilings.
- .4 Hanger inserts: purpose made.
- .5 Accessories: splices, clips, wire ties, retainers and wall moulding flush, to complement suspension system components, as recommended by system manufacturer.

3 EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for ceiling assemblies installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Ministerial Representative.
 - .2 Inform Ministerial Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from Ministerial Representative.

3.2 INSTALLATION

- .1 Install integrated ceiling suspension system to ASTM C 636 with hangers supported from building structural members at indicated heights.
- .2 Do not erect ceiling suspension system until anchors, blocking, sound or fire barriers, electrical and mechanical work above ceiling are inspected and approved by Ministerial Representative.
- .3 Layout centre line of ceiling both ways, to provide balanced borders at room perimeter no less

than 1/2 tile and system according to reflected ceiling plan.

- .4 Ensure suspended system is co-ordinated with location of related components.
- .5 Establish ceiling elevation using laser. Install wall mould to provide correct ceiling height.
- .6 Install suspension assembly to manufacturer's instructions and ULC tested design requirements only.
- .7 Install electrical light fixtures and air diffusers to manufacturer's instructions. Provide stabilizing reinforcement as indicated and as per manufacturer's instructions.
- .8 Install acoustic units, sprinklers, detectors, speakers, light fixtures, in suspension system as per details.
- .9 In fire rated ceiling systems, secure lay-in panels with hold-down clips and protect over light fixtures, diffusers, air return grilles and other appurtenances according to ULC requirements.
- .10 Ensure ceiling is free of finger marks and touch-up scratched surfaces with field painting to match, supplied by manufacturer.

3.3 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.

3.4 PROTECTION

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

END OF SECTION