

1. GENERAL

1.1. RELATED REQUIREMENTS

- .1 Section 04 22 00 – Concrete Unit Masonry
- .2 Section 13 32 13 – Metal Space Frames

1.2. REFERENCES

- .1 ASTM International:
 - .1 ASTM C423 – Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
 - .2 ASTM C635 – Standard Specification for Metal Suspension Systems for Acoustic Tile and Lay-in Panel Ceilings
 - .3 ASTM E84 – Test Method for Surface Burning Characteristics of Building Materials
 - .4 ASTM E119 – Fire Test of Building Construction and Materials
 - .5 ASTM E1264 – Classification for Acoustic Ceiling Products
 - .6 ASTM E1414 – Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum
- .2 Canadian General Standards Board (CGSB):
 - .1 CAN/CGSB-92.1, Sound Absorptive Prefabricated Acoustical Units.
- .3 Ceilings and Interior Systems Construction Association (CISCA):
 - .1 CISCA Code of Practices.
- .4 Canada Green Building Council (CaGBC)
 - .1 LEED Canada NC 2009, LEED: Green Building Rating System Reference Package for New Construction and Major Renovations (including Addendum).

1.3. SUBMITTALS

- .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Product Data: Submit manufacturer's product data, maintenance and installation instructions.
- .3 Shop Drawing Submittals: in accordance with Section 01 33 00 – Submittal Procedures.
 - .1 Indicate details of Construction, profiles, fastening, panel layout, and other related details.
- .4 Co-ordinate submittal requirements and provide submittals required by Section 01 35 20 – LEED Sustainable Requirements.

1.4. QUALITY ASSURANCE

- .1 Installer must have performed installations of the same scale in the last three (3) years.
- .2

1.5. AMBIENT CONDITIONS

- .1 Maintain a uniform air temperature above 15 degrees C and humidity of 20-40% for 48 hours before, during, and 48 hours after, installation.
- .2 Permit wet work to dry before commencement of installation.

1.6. WARRANTY

- .1 Provide manufacturer's warranty against defects in materials.
 - .1 Warranty shall provide material and labour to repair or replace defective materials.
- .2 Manufacturer's warranty shall cover a period of one (1) year from date of substantial completion.

1.7. WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, corrugated cardboard, packaging material for recycling in accordance with Waste Management Plan.
- .3 Divert unused metal materials from landfill to metal recycling facility approved by Contract

- .4 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 35 20 – LEED Sustainable Requirements and Section 01 74 19 – Waste Management and Disposal.

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 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address. Packages or materials showing evidence of water or other damage will be rejected.
- .3 Packaging Waste Management: remove for reuse and return by manufacture of pallets, crates, padding and packaging materials in accordance with Section 01 35 20 – LEED Sustainable Requirements and Section 01 74 19 – Waste Management and Disposal.

1.9. MAINTENANCE

- .1 Extra materials:
 - .1 Provide maintenance materials in accordance with Section 01 78 00 Closeout Submittals.
 - .2 Provide acoustical units amounting to 5% of gross ceiling area for each pattern and type required for project.
 - .3 Extra materials to be from same production run as installed materials.
 - .4 Clearly identify each type of acoustic unit, including colour and texture.
 - .5 Deliver to Contract Administrator, upon completion of the work of this section.
 - .6 Store where directed by Contract Administrator.

2. PRODUCTS

2.1. ACOUSTIC CEILING UNITS

.1 Acoustic Ceiling Panel

- .1 Square 24"x24"x3/4"
- .2 Mold/Mildew Inhibitor
- .3 Recycled Content > 60%
- .4 Performance:

Flame spread	Class A	ASTM E84
Noise Reduction Coefficient	.70	ASTM C423
Light Reflectance	.90	ASTM E1477
- .5 Acceptable Materials:
 - .1 CertainTeed Performa Symphony m (1222BF-IOF-1), Narrow Reveal
 - .2 CGC Mars 86985, Fineline Bevel

.2 Fire Rated Acoustic Ceiling Panel

- .1 Square 24"x24"x5/8"
- .2 Mold/Mildew Inhibitor
- .3 Recycled Content > 40%
- .4 Performance:

Flame spread	Class A	ASTM E84
Noise Reduction Coefficient	.60	ASTM C423
Light Reflectance	.80	ASTM E1477
- .5 Acceptable Materials:
 - .1 CertainTeed Performa Symphony m (1222BF-IOF-1), Narrow Reveal
 - .2 CGC Radar 22127, Fineline Bevel

2.2. ACCESSORIES

- .1 Suspension System:
 - .1 Flange Size: 14 mm (9/16")

- .2 **Colour: White**
- .3 **Acceptable Materials:**
 - .1 **CertainTeed Elite Narrow Stab**
 - .2 **CGC Centricitee DXT Fineline Bevel**
- .2 **Fire Rated Suspension System:**
 - .1 **Flange Size: 24 mm (15/16”)**
 - .2 **Colour: White**
 - .3 **Acceptable Materials:**
 - .1 **CertainTeed FireSecure Stab**
 - .2 **CGC DX/DXL fire-rated**
- .3 **Attachment Devices: Anchors sufficient for five-times design load indicated in ASTM C635 (table 1). Wire for hangers of size and type to suit intended application, complying with ASTM C641, Class 1 zinc coating, not less than 12 gauge.**

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. EXAMINATION

- .1 Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- .2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval from Contract Administrator.
- .4 Coordinate work with other sections to ensure installation as per specifications and drawings.

3.3. INSTALLATION

- .1 Install suspension system at manufacture’s instructions.
- .2 Lay out system according to architectural drawings.
- .3 Ensure suspension system is co-ordinated with location of related components.
- .4 Completed suspended system to support super-imposed loads, such as lighting fixtures, diffuser grills, etc.
- .5 Install components plumb, level, and rigid in accordance with approved shop drawings and product data.
- .6 Install ceiling system in accordance with ASTM C636
- .7 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 Certification Organizations design requirements.

3.4. CLEANING

- .1 Upon completion of installation proceed in accordance with 01 74 00 – Cleaning
- .2 Clean exposed surfaces of acoustical ceiling, trim, edge moldings and suspension members to comply with manufacturer’s instructions for cleaning.
- .3 Touch up any minor finish damage and to be approved by Contract Administrator.
- .4 Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.5. PROTECTION

- .1 Protect installed work from damage due to subsequent construction activity, including

- temperature and humidity limitations and dust control, so that the work will be without damage and deterioration at the completion of construction.
- .2 Replace any and all damaged ceiling system components.

END OF SECTION.