

PART 1 - GENERAL

1.1 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
    - .1 ASTM C 423-17, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
    - .2 ASTM E 1264-14, Standard Classification for Acoustical Ceiling Products.
    - .3 ASTM E 1477-98a(2013), Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.
  - .2 Canadian General Standards Board (CGSB)
    - .1 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction and Amendment No. 1 1988.
    - .2 CAN/CGSB-92.1-M89, Sound Absorptive Prefabricated Acoustical Units.
  - .3 Canada Green Building Council (CaGBC):
    - .1 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
  - .4 Canadian Standards Association (CSA International)
    - .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
  - .5 Department of Justice Canada (Jus)
    - .1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
    - .2 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.
  - .6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
    - .1 Material Safety Data Sheets (MSDS).
  - .7 Underwriter's Laboratories of Canada (ULC)
    - .1 CAN/ULC-S102-2011, Surface Burning Characteristics of Building Materials and Assemblies.
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1.2 ACTION AND  
INFORMATIONAL  
SUBMITTALS

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data: submit WHMIS MSDS in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Sustainable Design Submittals:
  - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.3 QUALITY  
ASSURANCE

- .1 Health and Safety:
  - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .2 Sustainable Requirements:
  - .1 Construction requirements: in accordance with Section 01 35 21 - LEED Requirements.

1.4 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.
  - .3 Storage and Handling Requirements:
    - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
    - .2 Store and protect specified materials from nicks, scratches, and blemishes.
    - .3 Replace defective or damaged materials with new.
  - .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
  - .5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding,
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- 1.4 DELIVERY, STORAGE AND HANDLING (Cont'd)
- .5 Packaging Waste Management: (Cont'd) banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- 1.5 ENVIRONMENTAL REQUIREMENTS
- .1 Permit wet work to dry before beginning to install.
- .2 Maintain uniform minimum temperature of 15 degrees C and humidity of 20-40% before and during installation.
- .3 Store materials in work area 48 hours prior to installation.
- .4 Store and manage hazardous materials in accordance with Section 01 35 21 - LEED Requirements.
- 1.6 EXTRA MATERIALS
- .1 Provide extra materials of acoustic units in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Provide acoustical units amounting to 2% of gross ceiling area for each pattern and type required for project.
- .3 Ensure extra materials are from same production run as installed materials.
- .4 Clearly identify each type of acoustic unit, including colour and texture.
- .5 Deliver to Departmental Representative, upon completion of the work of this section.
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PART 2 - PRODUCTS

2.1 SUSTAINABLE  
REQUIREMENTS

.1 Materials and products in accordance with  
Section 01 35 21 - LEED Requirements.

2.2 MATERIALS

- .1 Acoustic units for suspended ceiling system:  
to ASTM E 1264, for ACT 1 and ACT 2.
- .1 Type III.
  - .2 Pattern as selected by Departmental Representative.
  - .3 Textures as selected by Departmental Representative.
  - .4 Flame spread rating of 25 or less in accordance with CAN/ULC-S102.
  - .5 Smoke developed 50 or less in accordance with CAN/ULC-S102.
  - .6 Noise Reduction Coefficient (NRC) designation of 0.70 minimum.
  - .7 Ceiling Attenuation Class (CAC) rating 30, in accordance with ASTM E 1264
  - .8 Light Reflectance (LR) range of 0.85 to ASTM E 1477.
  - .9 Edge type tegular.
  - .10 Colour white.
  - .11 Size: ACT1: 610 mm x 610 mm x 19 mm. ACT2: 610 mm x 1220 mm x 19 mm. ACT3: 610mm x 610 mm x 22 mm.
  - .12 Shape flat.
  - .13 Recycled content: minimum 70% pre or post-consumer content.
  - .14 Rapidly renewable content: minimum 2.5%.
  - .15 30 year limited system warranty: no visible sag, mould/mildew protected.
- .2 ACT3: as per ACT1 and ACT2 except for:  
.1 High NRC tile, 0.15 rating.
- .3 Adhesive: low VOC type recommended by acoustic unit manufacturer.
- .4 Polyethylene: to CAN/CGSB-51.34, 0.15 mm thick.

PART 3 - EXECUTION

- 3.1 EXAMINATION .1 Do not install acoustical panels and tiles until work above ceiling has been inspected by Departmental Representative.
- 3.2 INSTALLATION .1 Install acoustical panels and tiles in ceiling suspension system.
- 3.3 APPLICATION .1 Install acoustical units. Refer to reflected ceiling plan.
- .2 Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.
- 3.4 INTERFACE WITH OTHER WORK .1 Co-ordinate with Section 09 53 00.01 - Acoustical Suspension.
- .2 Co-ordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, speakers, sprinkler heads, to be built into acoustical ceiling components.
- 3.5 SCHEDULE .1 ACT1: 610 MM X 610 MM X 19 MM acoustic tile.
- .2 ACT2: 610 MM X 1220 MM X 19 MM acoustic tile.
- .3 ACT3: 610 MM X 610 MM X 22 MM acoustic tile.