
Partie 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 09 21 16 – Gypsum board assemblies.
- .2 Section 09 53 00 – Acoustical suspension.
- .3 Divisions 21 à 28 for coordination of ceiling elements.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C423-09a, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
 - .2 ASTM E1264-08, Standard Classification for Acoustical Ceiling Products.
 - .3 ASTM E1477-98a (2008), 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 Canadian Standards Association (CSA)/CSA International
 - .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
- .4 Department of Justice Canada (JUS)
 - .1 Canadian Environmental Protection Act (1999) (LCPE), ch. 33.
 - .2 Transportation of Dangerous Goods Act (TDGA), ch. 34.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .6 Underwriter's Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-2003, Surface Burning Characteristics of Building Materials and Assemblies.

1.3 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 47 15 - Sustainable Requirements: Construction and Section 02 81 01 - Hazardous Materials.
- .3 Submit duplicate full size samples of each type acoustical units.

1.4 QUALITY ASSURANCE

- .1 Regulatory Requirements:

- .1 Fire-resistance rated floor/ceiling and roof/ceiling assembly: certified by Canadian Certification Organization accredited by Standards Council of Canada.
- .2 Mock-up:
 - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct mock-up 10 m² minimum of each type acoustical panel including one inside corner and one outside corner.
 - .3 Construct mock-up where directed.
 - .4 Allow 24 hours for inspection of mock-up by Departmental Representative before proceeding with ceiling work.
 - .5 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of the finished work.
- .3 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Protect on site stored or installed absorptive material from moisture damage.
- .2 Store extra materials required for maintenance, where directed by Departmental Representative.
- .3 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction /Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan (WMP).
 - .4 Separate for recycling and place in designated containers in accordance with Waste Management Plan.
 - .5 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, and Regional and Municipal regulations.
 - .6 Ensure emptied containers are sealed and stored safely in accordance with Section 01 35 43 - Environmental Procedures.
 - .7 Fold up metal and plastic banding, flatten and place in designated area for recycling.

1.6 ENVIRONMENT

- .1 Permit wet work to dry before beginning to install.
- .2 Maintain uniform minimum temperature of 15 degrees C and humidity of 20% to 40% before and during installation.
- .3 Store materials in work area 48 hours prior to installation.

1.7 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.

1.8 ACCEPTABLE PRODUCTS AND MATERIALS

- .1 Where a particular brand name is stipulated, see Instructions to Bidders for procedure for requesting approval of substitute materials and products

Partie 2 Products

2.1 MATERIALS

- .1 Acoustic units for suspended ceiling system: to CAN/CGSB-92.1 and ASTM E1264.
- .2 **Type TA1 and TA3:**
 - .1 Type: fibre de verre avec membrane acoustiquement transparente;
 - .2 Conforme à la norme ASTM E1264, Type XII, Forme 2, Motif E;
 - .3 Texture : très fine;
 - .4 Résistance au feu : Classe A;
 - .5 Flame spread rating of: 25 or less in accordance with CAN/ULC-S102.
 - .6 Noise Reduction Coefficient (NRC) designation of: 0.90 to ASTM C423.
 - .7 Articulation Class (AC): 190 to ASTM E1111.
 - .8 Light Reflectance (LR) range of: 0.86 to ASTM E1477.
 - .9 Edge type: square tegular, 14 mm thick.
 - .10 Colour: white.
 - .11 Shape: flat.
 - .12 Surface coverings: factory applied acrylic latex on membrane.
 - .13 Recycled content: 71%.
 - .14 Dimensions: two sizes required:
 - .1 **TA1:** 610 mm x 1219 mm x 25 mm thick (Imperial).
 - .2 **TA3:** 610 mm x 1524 mm x 25 mm thick (Imperial).
- .3 **Type TA2:**
 - .1 Type: mineral fibre hydroform.
 - .2 To ASTM E1264, Type IX, Form 2, Pattern G.

- .3 Texture:smooth.
- .4 Fire resistance: Class A.
- .5 Flame spread rating of: 25 or less in accordance with CAN/ULC-S102.
- .6 Noise Reduction Coefficient (NRC) designation: N/A.
- .7 Articulation Class (AC): 33 to ASTM E1111.
- .8 Light Reflectance (LR) range of 0.89 to ASTM E1477.
- .9 Edge type: square, de 24 mm thick.
- .10 Colour: white.
- .11 Profile: plan.
- .12 Coating: factory applied vinyl latex, waterproof, washable, scratch and dirt resistant, to USDA, FSIS and ACIA guidelines for use in food preparation areas.
- .13 Recycled content: 51%.
- .14 Dimensions:
 - .1 610 mm x 1219 mm x 16 mm thick (Imperial).
- .4 Adhesive: low VOC type recommended by acoustic unit manufacturer.
- .5 Edging and transition moulding as required on drawings.
- .6 Staples, nails and screws: to CSA B111 non-corrosive finish as recommended by acoustic unit manufacturer.
- .7 Hold down clips: purpose made clips to secure tile to suspension system, approved for use in fire-rated systems.

Partie 3 Execution

3.1 INSPECTION

- .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.
- .2 Install fibrous acoustical media and spacers over entire area above suspended metal panels.
- .3 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.

3.3 APPLICATION

- .1 Install adhesive bonded, stapled, screwed, nailed acoustic units to clean, dry and firm substrate.
- .2 Install acoustical units on ceilings and walls as indicated on drawings, as indicated on drawings, follow indications for alignment and departure points.

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- .3 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 - 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.

END OF SECTION