

## **Part 1 General**

### **1.1 SUMMARY**

- .1 Section Includes:
  - .1 Materials and application of acoustical units for direct application or for application and installation within a suspended ceiling.
- .2 Related Requirements
  - .1 Section 09 53 00.01 – Acoustical suspension

### **1.2 REFERENCE STANDARDS**

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM C423-02a, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
  - .2 ASTM E1264-98, Standard Classification for Acoustical Ceiling Products.
  - .3 ASTM E1477-98a(2003), 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 International)
  - .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
- .4 Department of Justice Canada (Jus)
  - .1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Data sheet: Submit Material Safety Data Sheets required under the Workplace Hazardous Materials Information System (WHMIS).

### **1.4 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.

## **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.

## **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.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Acoustic units for suspended ceiling system: to CAN/CGSB-92.1 and ASTM E1264.
  - .1 Type III mineral base with painted finish.
  - .2 Form 2, felted
  - .3 Pattern: C, E and K, perforated, small holes, fine texture and marked surface
  - .4 White color
  - .5 Beveled Slender Shadowline Edge Recessed
  - .6 Thickness of panels 19mm
  - .7 Dimension: 610mm x 1220mm
  - .8 Reference model (existing type in the building): # 2882 Illusion Radar from the USG Company.
- .2 Adhesive: low VOC type recommended by acoustic unit manufacturer.
- .3 Staples, nails and screws: to CSA B111 non-corrosive finish as recommended by acoustic unit manufacturer.

## **Part 3 Execution**

### **3.1 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.

### **3.2 APPLICATION**

- .1 Install adhesive bonded, nailed, stapled or screwed acoustic units to clean, dry and firm substrate.
- .2 Install acoustical units parallel to building lines with edge unit not less than 50% of unit width with directional pattern running in same direction. Refer to reflected ceiling plan.
- .3 Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.

### **3.3 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.

**END OF SECTION**

