

## **Part 1 General**

### **1.1 REFERENCE DOCUMENTS**

- .1 American Society for Testing and Materials (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 D1779-98 Standard Specification for Adhesive for Acoustical Materials (2004)
  - .4 ASTM C636/C636M-08 Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels
- .2 Canadian Standards Association (CSA):
  - .1 CSA B111-1974 Wire Nails, Spikes and Staples (R2003)
- .3 South Coast Air Quality Management District (SCAQMD), California State:
  - .1 SCAQMD Rule 1168, June 2006, Adhesives and Sealants Applications

### **1.2 PRODUCT OPTIONS AND SUBSTITUTIONS**

- .1 Refer to Division 1 for requirements pertaining to product options and substitutions.

### **1.3 LOADING**

- .1 Design acoustical suspension systems for deflection not to exceed 1/360 of span and consider light fixtures are supported by the suspension system.

### **1.4 SUBMITTALS**

- .1 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications and data sheets in accordance with Section 01 33 00 Submittal Procedures.
- .2 Samples:
  - .1 Submit duplicate samples of each component of acoustical systems for approval. Include accessories and mitered interior and exterior corners of wall mouldings.

### **1.5 SPARE UNITS**

- .1 Provide 2% additional acoustic units.

## **Part 2            Products**

### **2.1            MATERIAL**

- .1        Acoustic Units: mineral base panels conforming to ASTM E1264.

Pattern: No pattern.

Flame spread classification of: Class A

Size: 610 x 1220 x 15 thick Square edge, white colour

Design Basis: Armstrong Cortega Item No. 769 or equivalent.

Specify as minimum:

NRC-Noise Reduction Coefficient Range of 0.55

CAC-Ceiling Attenuation Class of 35

LRC-Light Reflectance Coefficient of 0.82

- .2        Staples, nails and screws: conforming to CSA B111.
- .3        Suspension System Components: shop painted satin sheen, white die cut interlocking components main and cross tee of double web with rectangular bulb depth governed by span all components 25 mm exposed face.
- .4        Hangers: 2.6 mm steel wire galvanized.
- .5        Suspension Accessories: Splices, clips, retainers, etc. to complement suspension system components.

## **Part 3            Execution**

### **3.1            JOB ENVIRONMENT**

- .1        Commence installation after building enclosed and dust generating activities completed.
- .2        Permit wet work to dry prior to commencement of installation.
- .3        Maintain uniform minimum temperature of 15°C and humidity of 20-40% prior to, during and after installation.

### **3.2            INSTALLATION**

- .1        Ensure substrate surface is level to within  $\pm 3$  mm in 3 m.
- .2        Install adhesive bonded acoustic units to clean, dry, firm and level surface.
- .3        Ensure suspended system is coordinated with location of related components.
- .4        Install acoustic units parallel to building lines with edge unit not less than 50% of unit width.
- .5        Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.

- .6 Support suspension system main runners at 1.2 m on centre maximum with hanger wire from building structural system. Completed assembly to support all superimposed loads. Maximum permissible deflection is 1/360 of span.
- .7 Interlock cross member to main runner to provide rigid assembly.
- .8 Install suspension assembly to manufacturers written instructions.
- .9 Install flush edge moulding at junction of acoustic unit ceiling and other materials around entire length of joint. Secure to construction. Butt joints neatly, square and true in alignment.
- .10 Seal vertical air plenum closure and acoustical ceiling where ventilating ceiling occurs. Use vinyl tape and 100 micrometre polyethylene to make positive, continuous seal.
- .11 Electrical fixtures shall be supported by the main runners and cross runners, but in addition to this the acoustical Subcontractor shall supply and install to each and every fixture a 2.6 mm galvanized soft annealed mild steel wire hangers within 150 mm of each corner. Fixtures exceeding 610 mm x 1220 mm shall be supported by other Subcontractors responsible to the General Contractor.
- .12 Runners supporting ceiling fixtures shall remain horizontal across their width within 2 degrees after the fixture loads are imposed.

### **3.3 EXPANSION JOINTS**

- .1 Erect two main runners parallel, 50 mm apart, on building expansion joint line. Lay in strip of acoustic tile/board, painted black, 25% narrower than tight fit.

### **3.4 CLEANING**

- .1 Keep acoustic installation and all components clean. Remove blemishes immediately.

**END OF SECTION**