

## SECTION 09 51 13

### ACOUSTICAL PANEL CEILINGS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Ceiling suspension system.
- B. Acoustical ceiling panels.
- C. Access system.

##### 1.02 RELATED SECTIONS

- A. Coordinate the work of this Section for above-ceiling ductwork and for ceiling-mounted air diffusers.
- B. Coordinate the work of this Section with the work for above-ceiling electrical conduits and raceways and for ceiling-mounted lighting fixtures and speaker boxes.

##### 1.03 MEASUREMENT AND PAYMENT

- A. General: Acoustical panel suspended ceilings will not be measured separately for payment but will be paid for as part of the Contract lump sum price for Architectural Work.

##### 1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM C635 Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings
  - 2. ASTM C636 Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
- B. Federal Specifications (FS):
  - 1. SS-S-118 Sound Controlling (Acoustical) Tiles and Panels
- C. International Conference of Building Officials, Uniform Building Code (UBC):
  - 1. UBC Std. 25-2 Metal Suspension Systems for Acoustical Tile and for Lay-in Panel Ceilings

##### 1.05 QUALITY ASSURANCE

- A. Seismic Design: Details of seismic bracing shall conform with UBC Standard No. 25-2, except as indicated otherwise.

**1.06 SUBMITTALS**

- A. General: Refer to Section 01 33 00, Submittal Procedures and Section 01 33 23, Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Shop Drawings: Submit manufacturer's details and specifications of the ceiling suspension system, including details of anchorage to the structure above and of seismic bracing.
- C. Samples: Submit samples and product data of the acoustical panels, suspension system, and accessories. Submit suspension system in 1 foot square package with all components of the system included. Design configuration of acoustical ceiling panels requires approval of the Engineer before the ceiling panels may be purchased for this work.

**PART 2 - PRODUCTS****2.01 MATERIALS**

- A. Ceiling Suspension System: ASTM C635, heavy-duty, electro-galvanized steel. Type of suspension system, grid size, and finish shall be as indicated. When not indicated, provide Direct Hung Suspension System. Color of finish shall be selected by the Engineer from the manufacturer's standard colors.
- B. Acoustical Ceiling Panels: Fed. Spec. SS-S-118, Type as indicated, Class A. Light reflectance shall exceed 75 percent. Color, texture, and finish shall be as indicated. When not indicated, provide white, fissured texture acoustical panels. Acoustical ratings shall be as follows unless otherwise indicated: NRC not less than 0.60, STC not less than 35. Minimum thickness shall be 5/8 inch.
- C. Access System: Access shall be such that any panel, anywhere, can be easily removed and reinstalled. System shall be such that panels do not raise or blow out of position from a differential in air pressure.

**PART 3 - EXECUTION****3.01 EXAMINATION**

- A. Verify that conditions are satisfactory for the installation of the acoustical ceiling system. If unsatisfactory conditions exist, notify the Engineer, and do not start the installation until such conditions have been corrected.

**3.02 INSTALLATION REQUIREMENTS**

- A. Installation of ceiling panels shall not be started until windows and doors are installed and glazed and the air-conditioning (or heating and ventilating) system is in operation. All interior wet and dust-producing work shall be completed and dry.
- B. At completion of the Work, all surfaces of ceiling panels and suspension system shall present true, level, and plane surfaces. Deviation from a level, plane surface shall not exceed 1/8 inch at any point in the ceiling. Surfaces of suspension system and ceiling panels shall be clean and unmarred over all areas, and shall present a finished appearance in all respects.

C. Layout Requirements:

1. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.
2. Items attached to or installed in ceiling panels shall be centered in panels.

**3.03 INSTALLATION**

- A. Installation of suspended ceilings shall conform to the applicable requirements of ASTM C636, except as otherwise indicated or required.
- B. Suspension system and acoustical ceiling panels shall be installed in accordance with the manufacturer's installation instructions and recommendations.
- C. Suspension system shall be securely hung from the structure above with No. 12 gage galvanized steel wire, spaced 4 feet on center along main T-bars. Include diagonal seismic bracing installed in accordance with UBC Std. 25-2 and approved details.
- D. Where hanger wires are next to light fixtures and air diffusers, the spacing shall be 2 feet on center. There shall be hanging wires secured to the main T-bars at the perimeters of all light fixtures and air diffusers. Light fixtures and air diffusers themselves shall be provided with safety wires as required.
- E. Hanger wires shall be securely fastened to the structure above as recommended by the manufacturer of the suspension system components and as required to meet applicable building code requirements.
- F. Acoustical lay-in ceiling panels shall be installed in the completed grid system in accordance with the manufacturer's installation instructions and recommendations.

**END OF SECTION 09 51 13**