

SECTION 09510 - ACOUSTICAL CEILINGS (POROUS EXPANDED POLYPROPYLENE. P.E.P.P)

PART 1 - GENERAL AND SUPPLEMENTARY PROVISIONS

1.1 SCOPE OF WORK

- A. Section Includes: SOUND SILENCER, Porous Expanded Polypropylene acoustical ceiling tile [**Select and specify supporting Suspension Grid, if grid is to be a part of this section**].
- B. Related Sections:
 - 1. Division 9 Sections: Acoustical Suspension. [**Cross reference suspension grid system, if grid is specified under a separate section**]

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C635: Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
 - 2. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM E1264: Standard Classification for Acoustical Ceiling Products.
 - 4. ASTM C423-99a: Sound Absorption by Reverberation Room Method.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Provide acoustical ceiling assembly designed and tested to provide surface burning characteristics (ASTM E84) as follows:
 - a. Flame spread: [**1" F/S, 3**] [**2" F/S, 5**]
 - b. Smoke Developed: [**1" S/D, 84**] [**2" S/D,113**]
 - 2. Provide acoustical ceiling system, which has been manufactured, fabricated and installed to provide Noise Reduction Coefficient (NRC) rating as follows:
 - a. [**Specify required NRC rating.**] **E-400 Mounting. [1" NRC .50] [2" NRC .70]**
 - b. For direct adhesive or mechanical fastener mounting **Type A Mounting [1" NRC .45] [2" NRC .70]**

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.

- C. Samples: Submit [**State number of samples required**] samples: 6" x 6" (152 x 152 mm) for each PEPP ceiling unit required, showing full range of exposed texture to be expected in completed work.
- D. Quality Assurance/Control Submittals: Submit the following:
 - 1. Test reports: Upon request submit certified test reports from recognized test laboratories
 - 2. Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity
- B. Regulatory Requirements and Approvals: [Non required

1.6 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirement Section.
- B. Delivery: Deliver material in the manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Provide labels indicating brand name, source of procurement, style, size and thickness
- D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.7 PROJECT/SITE CONDITIONS

- A. Environmental Requirements:
 - 1. Do not install ceiling panels until building is closed in and HVAC system is operational.

1.8 MAINTENANCE

- A. Extra Materials: Provide [**A recommended percentage of**] [**Specify percentage.**] additional material for use by owner in building maintenance and repair.
- C. Provide new unopened cartons of extra materials, packaged with protective covering for storage and identified with appropriate labels.

PART 2 – PRODUCTS [**ACOUSTICAL CEILING TILE**]

- A. Acoustical ceiling Tile shall be as provided by Acoustical Surfaces Inc, 123 Columbia Court N. Chaska, Minn. 55318. Ph: 1 (800) 448 –0121
 - 1. **SOUND SILENCER**, Porous Expanded Polypropylene (PEPP) Lay-In Grid Ceiling Panels:
 - a. Material description: Sound Silencer panels shall be manufactured from expanded polypropylene beads, which shall be capable of being recycled.

- b. Thickness [**1" (25.4 mm) thick**] [**2" (51 mm) thick**].
- c. Color, [**White, Charcoal**]
- d. Acoustical panels shall be impervious to moisture, excessive humidity or water.

2.2 PRODUCT SUBSTITUTIONS.

- A. Substitutions: No substitutions permitted without express prior approval from Architect prior to bidding.

1. ACCESSORIES

- A. Provide accessories as follows:
 - 1. Sound Silencer **Keep Clips**: When recommended by manufacturer for specific applications where ceilings may be subject to impact.
 - a. Material: Steel.
 - b. Manufacturer Designation: [**ARC-100 for 1" (25.4 mm) panels**] or [**ARC-200 for 2" (51 mm). panels**]
 - c. [**White**].

PART-3-EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Comply with the instructions and recommendations of the ceiling tile manufacturer.
- B. Install materials in accordance with governing regulations, fire resistance rating requirements, and industry standards applicable to work.

3.2 EXAMINATION

- A.. Site Verification of Conditions:
 - 1.Examine surfaces scheduled to receive suspended or directly attached acoustical units for unevenness, irregularities and dampness that would affect quality and execution of work.
 - 2.Do not proceed with installation of ceiling system until unacceptable conditions are corrected.

3.3 INSTALLATION

- A. General: Do not begin installation until materials sufficient to complete an entire room are received and are ready for installation.
- B. Ceiling areas shall be measured to establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders

- C. Grid layout shall be symmetrically laid out in each space. Coordinate work with other trades so that lighting fixtures, grilles and other ceiling fixtures work with grid layout.
- D. Do not use universal splices or other splices, which would obstruct passage of recessed lighting fixtures through grid openings or limit fixture relocation upon flanges of ceiling grids.
- E. Support for suspension system shall be from structure above, not from ductwork, metal deck, equipment or piping.
- F. Hangers shall be spaced not more than 6" (152 mm) from ends and not more than 4' (1219 mm) on centers on runners.
- G. Wall moldings shall be installed at the perimeter of each acoustical ceiling area and at locations where edge of units would otherwise be exposed.
 - 1. Secure moldings to supporting construction by fastening with screw anchors into the substrate, through holes drilled in vertical leg. Space holes not more than 3" (76 mm) from each end and not more than 16" (406 mm) on center along each molding.
 - 2. Level moldings with ceiling suspension system, to a level tolerance of 1/8" (3.2 mm) in 12' (3658 mm).
 - 3. Miter corners of moldings accurately to provide hairline joints, securely connected to prevent dislocation. Cope exposed flanges of intersecting suspension system members, so that flange faces will be flush.
 - 4. Furnish additional tees for supporting grilles, diffusers and light fixtures. Refer to reflected ceiling, HVAC and electrical plans for location.
 - 5. Arrange acoustical units and orient directionally patterned units, if any, in manner shown on reflected ceiling plans.
- I. Field cut acoustical panels as required, in accordance with manufacturers recommended procedures and equipment.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical ceilings, trim, edge moldings and suspension members to comply with manufacturer's instructions for cleaning.
- B. Remove and replace tiles, which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.5 PROTECTION

- A. Protect installed work from damage due to subsequent construction activity, including temperature and humidity limitations and dust control, so that the work will be without damage and deterioration at the time of acceptance by the Owner.

END OF SECTION