# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 and 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. This Section includes direct-attached acoustical ceiling panels at underside concrete ceiling.

B. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete at ceilings.

## 1.3 DEFINITIONS

A. NRC: Noise Reduction Coefficient.

## 1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Test Reports: Submit certified copies of test reports from an independent NVLAP-accredited acoustical testing laboratory showing compliance with the standards and requirements listed below.

C. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
   1. Method of attaching hangers to building structure.
      a. Furnish layouts for cast-in-place anchors, clips, and other ceiling attachment devices whose installation is specified in other Sections.
   2. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
   3. Minimum Drawing Scale: 1/4 inch = 1 foot.

D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
   1. Acoustical Panel: Set of 2’ X 2’ sheet Samples of actual material and color.

## 1.5 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain acoustical panel materials from a single manufacturer. Provide acoustical ceiling panels of each type required from one (1) manufacturer, of uniform texture and color

B. Installer. Provide evidence of appropriate experience in system installation and that installation method proposed is acceptable to panel manufacturer.

C. Fire-Test-Response Characteristics: Provide acoustical panel ceilings that comply with the following requirements:

1. Fire-Resistance Characteristics: Where indicated, provide acoustical panel ceilings identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
   a. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.
   b. Identify materials with appropriate markings of applicable testing and inspecting agency.
2. Surface-Burning Characteristics: Provide acoustical panels with the following surface-burning characteristics complying with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84:
   a. Flame spread Index: 25 or less.
   b. Smoke-Developed Index: 450 or less.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical panels and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.8 COORDINATION

A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.9 REFERENCES

A. ASTM C 423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method. Mounting Type A.

B. ASTM E 795 Standard Practices for Mounting Test Specimens during Sound Absorption Tests.

C. ASTM E-84 Standard Test Method for Surface Burning Characteristics of Building Materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Lamvin, Inc. (www.lamvin.com), or equal.

2.2 MATERIALS

A. Acoustical panels shall be Lamvin's PolyCore Acoustical Ceiling Panels as manufactured by Lamvin, Inc. (Basis-of-Design) (No Known Equal, or equal.

B. Flame Spread: Panel shall have a Class I (or A) flame spread and smoke development rating per ASTM E-84.

C. Acoustical panels shall be constructed of recyclable expanded polypropylene beads in thickness of 2".

D. Color: Shall be White, or as specified by the Architect.

E. Sizes: Shall be 24 inches x 48 inches or as shown on drawings (maximum size is 24" x 48"). Panels are to be manufactured according to field dimensions supplied by the installing contractor. Standard tolerances are ± 1/16" in width and height.

F. Edge Profile: Shall be square. Corner detail shall be square.

G. Acoustical Performance: Panels shall have a minimum NRC .70 in accordance with ASTM C-423 (Type "A" Mounting).

H. Mounting: Shall be Adhesive/Impaling Clip.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Verify dimensions to ensure proper fabrication of materials.

C. The contractor shall be responsible for the examination and acceptance of all surfaces and conditions prior to the acoustical panel installation

3.2 INSTALLATION

A. Installation of acoustical panels shall not begin until all wet work (plastering, concrete, etc.) is completed and dry. Building shall be properly enclosed and under standard occupancy conditions (temperature of 60-85° F and not more than 70% relative humidity) before installation begins.

B. Install panels in accordance with manufacturer's instructions and approved shop drawings.

C. Arrange acoustical panels and orientate directional pattern, if any.

D. Remove panels that are damaged and unacceptable to Architect and replace with new undamaged materials at no expense to owner.

E. Do not begin installation until unacceptable conditions are corrected.

END OF SECTION