

**SECTION 09 51 00
ACOUSTICAL CEILINGS**

PART 1 - GENERAL

1.01 SCOPE:

- A. Provide all of the labor, materials, equipment, and services required to furnish and install the acoustical ceilings.

1.02 QUALITY ASSURANCE:

- A. In addition to complying with all pertinent codes and regulations, comply with all pertinent recommendations published by the Ceilings and Interior Systems Contracting Association and the requirements of ASTM C636 (latest edition).
- B. Single source responsibility:
 - 1. Obtain each type of acoustical ceiling unit from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
 - 2. Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
- C. Coordinate layout and installation of acoustical ceiling units and suspension system components with other construction that penetrates ceilings or is supported by them, including, but not limited to, light fixtures, HVAC equipment, fire-suppression system components, and partition system.

1.03 SUBMITTALS:

- A. Prior to installation, submit to the Architect for review the following:
 - 1. Submit manufacturer's project specifications and installation instructions for each type of acoustical panel and suspension system required, including certified laboratory test reports and other data necessary to show compliance with these specifications.
 - 2. Include manufacturer's recommendations for cleaning and refinishing acoustical panels, including precautions against materials and methods which may be detrimental to finishes and acoustical performances.
 - 3. Shop drawings, showing layout of each type of ceiling system in relation to surrounding structure, mechanical work (which shall include, but not be limited to, duct work and piping), lighting and electrical work, and any other pertinent fixtures and equipment. Drawings shall also show location of accessible panels. The reproduction of Architect's Drawings as the basis of these shop drawings will not be acceptable.
 - 4. Physical Samples: Ceiling board and/or tile and exposed grid in finish and pattern proposed to be furnished.
- B. Operations and maintenance manual:
 - 1. Include manufacturer's recommendations for cleaning and refinishing acoustical panels, including precautions against materials and methods which may be detrimental to finishes and acoustical performances.

1.04 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a

fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.05 JOB CONDITIONS:

- A. Do not install interior acoustical panel ceilings until space enclosed and weatherproof, and until work above ceilings completed, and until ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

PART 2 - PRODUCTS

2.01 ACOUSTICAL CEILINGS

- A. Type 1 – Office and Storage: Typical. See drawings.
 - 1. Armstrong CALLA High CAC 8808
 - 2. Size: 24" x 48" x 1".
 - 3. Edge: Square.
 - 4. Color: White.
- B. Type 2 – Wet Areas and Animal Holding: Typical. See drawings.
 - 1. Armstrong Clean Room VL 870
 - 2. Size: 24" x 48" x 5/8".
 - 3. Edge: Square.
 - 4. Color: White.

2.03 OTHER MATERIALS:

- A. All other materials, not specifically described but required for a complete and proper installation of the suspended acoustical ceiling, shall be as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS:

- A. Prior to all work of this Section, carefully inspect the installed work of all other Trades and verify that all such work is complete to the point where this installation may properly commence.
 - 1. Do not proceed until all wet work (eg: Concrete, terrazzo, plastering, and painting) has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed instructions.
- B. Verify that suspended acoustical ceiling may be installed in accordance with the original design, all codes and regulations having jurisdiction, the manufacturer's current recommendations and the approved submittals.
- C. In the event of discrepancy, immediately notify the Architect.
- D. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 COORDINATION WITH MECHANICAL AND ELECTRICAL:

- A. Coordinate with the requirements of other Trades. Use all means necessary to interface with adjacent materials.
- B. Where recessed lighting fixtures are installed in suspension system, consult with the fixture manufacturer prior to preparation of shop drawings so that the work of this Section shall be installed ready to receive the lighting fixtures. Modify the suspension system members adjacent to fixture locations as approved by the Architect and to the extent necessary to accommodate the fixtures.
- C. In the event lighting fixtures or air distribution or return air equipment other than those specified should be substituted under their respective Sections and/or Drawings and should the substituted fixtures require more extensive modifications, the Contractor shall make such required additional modifications and any additional cost shall be paid by the Contractor.
- D. Where wide or deep air conditioning ducts above suspended acoustical ceilings interfere with suspension hangers, provide independent framing below the duct work to support the ceiling as an obligation under this Section. Framing shall meet the approval of the Architect. Framing shall be supported from floor or roof structure above and shall in no case be attached to the duct work, piping or conduit.

3.03 SUSPENDED CEILING INSTALLATION:

- A. Comply with ASTM C 636 as applicable to acoustical panel ceiling systems, except to extent more stringent requirements indicated or required for compliance with governing regulations or fire resistance ratings.
- B. Suspend ceiling hangers from building structural members only, and only as indicated.
 - 1. Secure to structure, including intermediate framing members, by attaching to metal clips designed for type of member involved, or where possible, by looping and wire-tying directly to members.
- C. Space hangers not more than 4'-0" o.c. along each member supported directly from hangers, unless otherwise shown, and provide hanger not more than 6" from ends of each member. All hanger wires shall be installed straight and true. Splayed or diagonally installed wire is not acceptable.
- D. For the support of light fixtures, the fixture load shall be supported by supplemental hangers within 6" of each corner, or the fixture shall be supported separately.

3.04 MOLDINGS:

- A. Cope exposed flanges of intersecting members so that flange faces will be flush.
- B. Install edge moldings of type indicated at edges of each acoustical panel ceiling area, and at locations where edge of panel would otherwise be exposed after completion of work.
- C. Secure moldings to building construction by fastening through holes drilled in vertical leg. Space holes not more than 3" from each end and not more than 16" o.c. Draw-up fasteners for tight set against vertical surfaces.
- D. Miter corners of moldings accurately to provide hairline joints.
- E. Level moldings with ceiling suspension system, to level tolerance of 1/8" in 12'-0".

3.05 ACOUSTICAL PANEL INSTALLATION:

- A. Plan each layout to balance border widths at opposite edges of each ceiling area. Avoid use of less-than-half width units wherever possible. Comply with Architect's reflected ceiling plans to greatest extent possible.
- B. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members.
- C. Scribe and cut panels for accurate fit at borders and at interruptions and penetrations by other work through ceilings.
 - 1. For tegular or reveal edge panels, cut and reveal or rabbit edges of ceiling tiles at all border areas and vertical surfaces.

3.06 CLEANING AND PROTECTION:

- A. Clean exposed surfaces of acoustical panels and of trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- B. Institute required protection for acoustical panel ceilings, including temperature and humidity limitations and dust control, so that work will be without damage and deterioration at time of substantial completion.

- END OF SECTION -