SECTION 095113 - ACOUSTICAL PANEL CEILINGS

1.0 GENERAL

1.1 SUMMARY

A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.

B. Provide and install an exposed grid suspension system and acoustical ceiling panels as shown on project Drawings, including:
   1. Wire hangers, fasteners, main runners, cross tees, and wall angle moldings
   2. 24" x 48" acoustical ceiling panels

1.2 RELATED DOCUMENTS

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM A1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with improved Formability.
   4. ASTM C423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
   6. ASTM C636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
8. ASTM E1264 Classification for Acoustical Ceiling Products.


B. California Building Code (CBC):

1. Chapter 25A, Section 2501A.5A

C. Division of the State Architect (DSA):

1. Interpretations and Regulations, IR 25-2

1.4 SUBMITTALS

A. Comply with provisions of Section 013300, Submittal Procedures.

B. Product Data: Submit manufacturer's technical data for acoustical ceiling units and suspension system required, including cut sheets and manufacturer’s full range of standard color options for Architect’s review and selection.

C. Samples: Submit the following for verification purposes:

1. Minimum 6” square samples of specified acoustical panel type.

2. Set of 12” long samples of exposed wall molding and suspension system, including main runner and 4-foot cross tees.

D. Shop Drawings: Provide layout and details of acoustical ceilings. Show locations of items which are to be coordinated with or supported by the ceilings.

E. Certifications: Manufacturer’s certifications showing that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards. For acoustical performance, each carton must carry an approved independent laboratory classification of NRC, CAC, and AC.

F. If the material supplied by the acoustical subcontractor does not have an Underwriter’s Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the County’s discretion. All products not conforming to manufacturer’s current published
values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

G. Submit manufacturer’s Standard Warranty as outlined in part 1.8 of this Section.

1.5 DELIVERY, STORAGE AND HANDLING

A. The products delivered shall be free from defects.

B. 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 or other causes.

C. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

D. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.6 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide acoustical panel units and grid suspension system components by a single manufacturer.

B. Fire Performance Characteristics: Provide acoustical ceiling components that are identical to those tested for the following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.

1. Surface Burning Characteristics: As follows, tested per ASTM E84 and ASTM E1264.

   a. Flame Spread: Class A, 25 or less.

   b. Smoke Developed: 50 or less.

C. If the material supplied by the acoustical subcontractor does not have an Underwriter’s Laboratory classification of acoustical performance on every carton, Contractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the County’s discretion.

D. All products not conforming to manufacturer’s current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.
E. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through ceilings, including light fixtures, HVAC equipment, fire-suppression system components, and partition system (if any).

1.7 PROJECT CONDITIONS

A. Space Enclosure:

1. HumiGuard Plus Ceilings: Building areas to receive ceilings shall be free of construction dust and debris.

2. Products with HumiGuard Plus performance and hot dipped galvanized steel, aluminum or stainless steel suspension systems can be installed up to 120 degrees F and in spaces before the building is enclosed, where HVAC systems are cycled or not operating.

3. HumiGuard Plus ceilings cannot be used in applications where moisture or where moisture will come in direct contact with the ceiling.

1.8 ENVIRONMENTAL REQUIREMENTS

A. See Section 013543, Special Environmental Requirements and Procedures.

B. Provide materials that are low-emitting.

1. Materials shall meet the limits of the State of California DHS Standard Practice for the Testing of Volatile Organic Compounds or shall be identified by the following certification programs:

   a) Greenguard Environmental Institute

   b) Scientific Certification Systems

2. Provide cut sheets and/or MSDS sheets showing VOC limits for each material specified herein.

C. Provide materials with highest possible recycled content.

1.9 WARRANTY

A. Manufacturer’s standard performance warranty, as available for specified installation and environmental conditions:

1. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to:

b. Grid System: Rusting and manufacturer’s defects.

B. Warranty Period for HumiGuard Plus:

1. Acoustical panels and grid systems with HumiGuard Plus performance supplied by one source manufacturer is fifteen (15) years from date of substantial completion.

2. The Warranty shall not deprive the County of other rights the County may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.10 MAINTENANCE

A. Extra Materials: Provide and deliver extra materials to the County as described below that match products installed. Surplus materials shall be packaged with protective covering for storage and shall be identified with appropriate labels.

1. Acoustical Ceiling Units: Furnish quantity of full-size units equal to five percent (5%) of amount installed.

2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to two (2%) percent of amount installed.

2.0 PRODUCTS

2.1 MANUFACTURER

A. Armstrong World Industries, Inc., 1-877-ARMSTRONG.

2.2 MATERIALS – GENERAL

A. Standard for Acoustical Ceiling Units: Provide manufacturer’s standardized units of configuration indicated which are prepared for mounting method designated and which comply with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).

1. Mounting Method for Measuring NRC: No. 7 (mechanically mounted on special metal support), FS SS-SS-118; or Type E-400 mounting as per ASTM E795.

B. Colors, Textures, and Patterns: Provide products to match appearance characteristics indicated or, if not, otherwise indicated, as selected by the Architect from manufacturer’s standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.
2.3 ACOUSTICAL PANEL UNITS

A. Fine Fissured Second Look II #1761:
   1. Panel Size: 24" x 48"
   2. Panel Thickness: 3/4"
   3. Material: Wet-formed mineral fiber
   4. Surface Finish: Factory-applied latex paint
   5. Color: As approved by the Architect
   6. Surface Texture: Fissured and scored 12" x 12" squares
   7. Edge Profile: Angled Tegular
   8. Insulation Values:
      a. R Factor - 1.5 (BTU units)
      b. R Factor - .26 (Watts units)
   9. Acoustics Ratings:
      a. NRC Range: .55
      b. CAC Range: 35
   10. Light Reflectance: .84
   11. Sag Resistance: HumiGuard Plus
   12. Anti-Microbial: BioBlock Plus
   13. Fire Resistance: Class A
   14. Recycled Content: 28-39%
   15. Dimensional Stability: HumiGuard Plus with BioBlock

2.4 METAL SUSPENSION SYSTEMS

A. Prelude XL 15/16" exposed Tee suspension system:
   1. Standard for Metal Suspension Systems: Provide commercial quality metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C635 requirements.
      a. Main Beams and cross tees are double-web steel construction with type exposed flange design.
b. Exposed surfaces chemically cleansed, capping pre-finished galvanized in baked polyester paint.

c. All non-extruded aluminum or stainless steel main beams and cross tees shall have rotary stitching

2. Finishes and Colors: Provide manufacturer's standard factory-applied finish for type of system indicated.
   a. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by the Architect from manufacturer's full range of standard colors.

3. Attachment Devices: Size for five times design load indicated in ASTM C635, Table 1, Direct Hung unless otherwise indicated.

4. Wire for Hangers and Ties: ASTM A641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least three times the design load, but not less than 12 gauge.

5. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated, or if not indicated, manufacturer’s standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated.
   a. Provide moldings with exposed flange of the same width as exposed runner.
   b. Trim will be attached to wood frame in some locations to gypsum board wall in others as noted.

3.0 EXECUTION

3.1 PREPARATION

A. Coordination: Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.
   1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

B. Measure each ceiling area and 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, and comply with reflected ceiling plans wherever possible.

C. Coordinate panel layout with Mechanical and Electrical fixtures.

3.2 INSTALLATION

A. Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire-resistance rating requirements as indicated, and CISCA standards applicable to work
B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.

C. Install suspension system and panels in compliance with ASTM C636 and with the authorities having jurisdiction.

1. Suspend main beam from overhead construction with hanger wires not less than 6 inches from each end and spaced 4 feet-0 inches on center along the length of the main runner.

   a. Install hanger wires plumb, straight, and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system.

   b. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.

2. Install wall moldings at intersection of suspended ceiling and vertical surfaces. Miter corners where wall moldings intersect or install corner caps.

3. Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

4. For reveal edge panels, cut and reveal or rabbit edges of ceiling panels at border areas and vertical surfaces.

5. Install acoustical panels in coordination with suspended system, with edges resting on flanges of main runner and cross tees.

   a. Cut and fit panels neatly against abutting surfaces, and to fit accurately at borders and at penetrations.

   b. Support edges with moldings.

3.3 INSTALLATION - GLUE-DOWN UNITS

A. General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire-resistance rating requirements as indicated, and CISCA standards applicable to work

B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.

3.4 ADJUSTING AND CLEANING
A. Replace damaged and broken panels.

B. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage.

C. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION