SECTION 09 23 10

ACOUSTICAL PLASTER

PART 1 – GENERAL

1.1 PURPOSE

A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

1.2 LESSONS LEARNED AND DESIGN CONSIDERATIONS

A. X.

1.3 SECTION INCLUDES

B. Field applied seamless acoustical plaster system.

C. Acoustical substrate board.

1.4 RELATED REQUIREMENTS

A. Division 01 - Administrative Requirements: Submittal procedures, project meetings, progress schedules and documentation, reports, coordination.

B. Division 01 - Quality Requirements: Procedures for testing, inspection, mock-ups, reports, certificates; use of reference standards.

C. Division 01 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

D. Division 01 - Execution Requirements: Examination, preparation, and general installation procedures; pre-installation meetings; cutting and patching; cleaning and protection; starting of systems; demonstration and instruction; closeout procedures except payment procedures; requirements for alterations work.

E. Division 01 - Closeout Submittals: Project record documents, operation and maintenance (O&M) data, warranties and bonds.

F. Section 09 21 16 - Gypsum Board Assemblies: Suspension system, gypsum board, accessories and installation.

1.5 REFERENCE STANDARDS

A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

D. ASTM E605 - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members.

E. ASTM E761 - Standard Test Method for Compressive Strength of Sprayed Fire-Resistive Material Applied to Structural Members.

F. ASTM E1477 - Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

1.6 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Conduct a pre-installation meeting two weeks prior to the start of the work of this section; require attendance by all affected installers.

1.7 SUBMITTALS

A. See Division 01 for submittal procedures.

B. Product Data: Provide product data on each product/component specified in this Section.

C. Samples: Submit two acoustical plaster samples, 12 x 12 inch in size, illustrating backing board, finish and color.

D. Manufacturer's Qualification Statement.
E. Certificate: Certify that products of this section meet or exceed specified requirements.
F. Test Reports: Indicate Independent Laboratory testing results for specified finish, suspension and backing for Sound Absorption (NRC) Values.
G. Manufacturer's Instructions: Indicate manufacturer's installation instructions for acoustical plaster installation.

1.8 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.
B. Installer Qualifications: Company specializing in performing the work of this section and approved by manufacturer.

1.9 MOCK-UP
A. Provide acoustical plaster mock-up, 4 feet long by 4 feet wide, illustrating final coat, finish and color.
B. Locate where directed.
C. Mock-up may remain as part of the Work if approved.

1.10 DELIVERY, STORAGE, AND HANDLING
A. Deliver acoustical plaster components to project site in manufacturer's original un-open end packaging.
B. Store acoustical plaster components under cover and elevated above grade.

1.11 FIELD CONDITIONS
A. Do not apply acoustical plaster when substrate or ambient air temperature is less than 60 degrees F nor more than 90 degrees F; relative humidity 70%, for 24 hours prior to, during operations and after, until building heating system can maintain the above minimum temperature.
B. Ventilate space during and after acoustical plaster installation.

1.12 WARRANTY
A. See Division 01 for additional warranty requirements.
B. Correct defective Work within a five year period after Date of Substantial Completion.
C. Provide five year manufacturer warranty for the replacement of acoustical plaster that cracks, flakes, dusts excessively, peels of falls from substrate.

PART 2 –PRODUCTS

2.1 MATERIALS
A. Suspension System: Commercial quality, cold-rolled steel, hot dipped galvanized finish.
1. Main tees: 1-1/2 inch Heavy Duty classification. 1-1/2 inch face dimension.
2. Cross members: 1-1/2 inch x 1-1/2 inch face dimension.
3. Wall molding: Single web steel.
4. Hanger Wire: Minimum 12 ga. galvanized.
B. Acoustical Plaster:
1. Basis of Design: Fellert Silk.
a. Application: 2-coat, spray applied and hand troweled, sound absorbing plaster.
b. Thickness: 3 mm (0.125 inch).
c. Finish: Silk.
2. Performance Criteria:
a. NRC: ASTM C423 -07a Test Mounting Type A, NRC 0.95.
b. Flame Spread> ASTM E84, <25.
c. Light Reflectance: ASTM E1477, 90.
d. VOC:
1) Adhesive: EPA Method 24, less than or equal to 2 grams per liter.
2) Acoustical Plaster: ASTM D3960, less than or equal to 4 grams per liter.
3) Primer: EPA Method 24, less than or equal to 23 grams per liter.
4) Acoustical Coating: ASTM D3960, Less than or equal to 3 grams per liter.
e. Compressive Strength: ASTM E761, 160 psi.
f. Density: ASTM E605, 1.86 lbs/ft,

3. Acoustical Board: 39mm (1.5 inch) 6 lb. density sound absorbing fiberglass board.
4. Primer: Manufacturer's standard for the application.
5. Adhesive: Manufacturer's standard for the application.
6. Water: Potable, free of mineral or organic matter.
7. Color: White.
8. Finish: Smooth trowel.
9. Accessories: As required by manufacturer for the application.

C. Gypsum Board Accessories: Complying with ASTM C1047, plastic.
D. Fasteners: 1-1/4 inch Type SF Exterior Sheathing Screws with corrosion resistant coating, ASTM C844.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Verify that drywall ceiling is installed as required by the acoustical finish manufacturer's installation and tolerance requirements.
B. Acceptable Tolerance of Finish System: 3/32 inch over four feet in each direction.

3.2 INSTALLATION

A. Ceiling Framing:
   1. Install grid members in accordance with ASTM C636, CISCA installation standards, and other applicable references.
   2. Install in accordance with manufacturer’s current printed recommendations.
   3. Install in accordance with approved shop drawings and locate ceiling in accordance with main tee dimensions relative to elevations.
   4. Secure hanger wires to upper structural elements and space hangers so that each hanger wire supports a maximum of 16 sq. ft.
   5. Space main tee members a maximum span of 48 inches on center.
   6. Space cross tees recommended 16 inches o.c. Install extra cross tees where butt joints occur, 8 inches from each side of the butt joint.
B. Acoustical Plaster Board:
   1. Position all ends and edges of ceiling panels at framing members. Extend ceiling panels to corners and make firm contact with the wall angle or channel. To minimize end joints, use panels of maximum practical lengths. Fit ends and edges closely, but not forced together.
   2. Cut ends, edges, scribe or make cutouts within the field of panels in a workmanlike manner.
   3. Attach veneer plaster board in accordance with manufacturer’s installation instructions.
   4. Install trim, and similar accessories as necessary and as applicable to meet project requirements where indicated on drawings.
C. Acoustical Plaster Board Preparation:
   1. Secure C-channel to studwork.
   2. Apply adhesive to all board surfaces in accordance with manufacturer's installation instructions.
   3. Apply self-adhesive mesh tape and primer to intersection of C channel and acoustical board.
   4. Seal all penetrations with joint tape or self-adhesive fire-tape to prevent air movement between occupied space and plenum.
   5. Sand acoustical board and adhesive.
D. Acoustical Plaster:
   1. Install in accordance with manufacturer's instructions.
   2. Spray and trowel on coat of plaster and allow 203 days of drying. Lightly sand when dry.
   3. Spray apply one coat of plaster to match approved mock-up. Do not sand.
   4. Spray apply finish coat in accordance with manufacturer's written installation/application instructions to a smooth trowel plaster finish to match approved mock-up.

3.3 CLEANING

A. Clean fall out material immediately upon completion of work.

3.4 PROTECTION

A. Protect installed acoustical plaster from subsequent construction operations.

END OF SECTION