

SECTION 09590 (09 83 16) - ACOUSTIC CEILING RESTORATION

PART 1: GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Restoration of existing acoustical tile and grid ceiling system.
- B. Related Sections:
 - 1. Section 09510 - Acoustical Ceilings.

1.2 REFERENCES

- A. Reference Standards: See Section 01090.
- B. References:
 - 1. ASTM C 423-89: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 - 2. ASTM C 523-68: Light Reflectance of Acoustical Materials by the Integrating Sphere Reflectometer.
 - 3. ASTM E 84-98: Surface Burning Characteristics of Building Materials.
 - 4. ASTM E 313-98: Standard Practice for Calculating Yellowness and Whiteness Indices from Instrumentally Measured Color Coordinates.
 - 5. ASTM E 795-83: Mounting Test Specimens during Sound Absorption Tests.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Products and treatment shall remove or hide existing discoloration, dirt, grime or grease on all similar tiles and provide a uniform appearance for a period of not less than 1 year after completion of work.
 - 2. Prior to the arrival of the ceiling restoration applicator to the job site, the General Contractor shall be responsible for the following:
 - a. Coordination with ProCoat to schedule applicator's work on successive nights toward the end of the Project.
 - b. Coordination of work with related trades.
 - c. Receipt and storage of materials at Project site.
 - d. Replacement of broken, cracked, sagging or missing ceiling tiles.
 - e. Leveling the existing T-bar grid system wherever necessary.
 - f. Ensuring that there is a 24" unobstructed clearance below the ceiling; i.e., remove signage hanging from the ceiling, merchandise stacked within 24" of ceiling should be removed, etc.
 - g. Providing two packages or more of extra ceiling tiles to be coated by the Manufacturer and left for future use (attic stock).
 - 3. The General Contractor shall assist the applicator in the shut down/turn on of HVAC before/after spraying.
 - 4. The General Contractor shall provide on-site Contractor representative to complete walk- through when the application is completed and to sign off on the Application Service Report.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300:
 - 1. Product Data: Manufacturer's printed literature on each product to be used, including:
 - a. Preparation, instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods.
 - 2. Contract Closeout Submittals:
 - a. Operation and Maintenance: Maintenance data for installed products. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.

1.5 QUALITY ASSURANCE

- A. Management of the Ceiling Restoration Process by ProCoat Products, Inc. (PPI):
 1. PPI receives the purchase order for the project's ceiling restoration.
 2. PPI coordinates the project schedule with the client company or their General Contractor.
 3. PPI designates a trained ProCoat applicator to do the installation.
 4. PPI invoices the client upon satisfactory completion of the project and compensates the applicator.
 5. PPI guarantees the quality of the turnkey application service and maintains the warranty.

- B. Ceiling Restoration results in the maintenance or improvement of the surface's acoustical and fire retardant characteristics. And the quality of this performance is directly related to both the acoustical coating material utilized as well as the application procedure employed.

- C. Acoustical Coating: Any contractor that does not use ProCoat's turnkey installation service or who applies a product other than the one contained in this specification (Part 2: Products) without authorization by _____, may be held responsible for the removal and replacement of the entire ceiling system with new materials.

- D. Applicator's Qualifications:
 1. Applicator is the subcontractor selected to perform the ceiling restoration work by PPI.
 2. Applicator shall have "preferred" or "certified" classification by PPI, Manufacturer.
 3. Applicator shall be experienced in application of specified materials sufficient to have earned a "preferred" or "certified" classification from the Manufacturer.
 4. Applicator shall be experienced in application of specified materials in occupied facilities.
 5. Applicator's Personnel: Employ persons trained for application of specified materials.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and protect products under provisions of Section 01600.

- B. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

- C. Storage:
 1. Store materials in a clean dry area in accordance with manufacturer's instructions.
 2. Keep containers sealed until ready for use.
 3. Keep from freezing.
 4. Minimum Storage Temperature: 55 degrees F.

- D. Handling: Protect materials during handling and application to prevent damage or contamination.

1.7 PROJECT/SITE CONDITIONS

- A. Environmental Conditions: Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

- B. Minimum Ambient Application Temperature: 55 degrees F.

1.8 SEQUENCING

- A. Pre-Restoration Meeting:
 1. Convene a meeting 7 days before start of ceiling restoration.
 2. Require attendance of parties directly affecting work of this section, including Contractor, Construction Manager, applicator, and manufacturer's representative.
 3. Review protection, surface preparation, application, cleaning, and coordination with other work.

1.9 SCHEDULING

- A. Contact Manufacturer upon receipt of contract or notice to proceed from General Contractor:

1. Verify that ProCoat has received drawings and related information for the ceiling restoration work.
 2. Inform ProCoat of tentative date to commence ceiling restoration work.
- B. Notify Manufacturer a minimum of 3 weeks in advance of the scheduled date to commence ceiling restoration work.
- C. Schedule restoration work with operations of store, i.e., 24 hour stores should be advised that work will be completed at night but that sectioned-off areas will be closed to customers.

PART 2: PRODUCTS

2.1 MANUFACTURER

1. Acceptable Manufacturer:
 - a. ProCoat Products, Inc., 260 Centre Street, Suite D, Holbrook, MA 02343.
 - 1) Contact: Ken Woolf.
 - 2) Tel: (781) 767-2270.
 - 3) Fax: (781) 767-2271.
 - 4) Email: ken.woolf@procoat.com.

2.2 MATERIALS UTILIZED IN THE CEILING RESTORATION PROCESS

- A. ProCoustic Acoustical Tile and Ceiling Coating:
1. Sound Absorption, ASTM C 423 and E 795: Improve Noise Reduction Coefficient of tile from 0.55 to 0.60.
 2. Fire Rating, ASTM E 84: Class A flame spread
 - a. Flame Spread: Reduce from 25 to 15.
 - b. Smoke Developed: Reduce from 10 to 5.
 3. Light Reflectance, ASTM C 523: Improve reflectance of light of tile from 0.81 to 0.88.
 4. Combustion Toxicity: Test Pass.
 5. Aging, ASTM E 313: Acoustical tile coating has a higher Whiteness Index than:
 - a. New acoustical tile with high quality latex ceiling paint coating.
 - b. New acoustical tile with manufacturer's standard coating.
 6. Adhere to Grid: Does not cause tile to adhere to grid system after coating has dried.
 7. Physical Form: Smooth pourable liquid. Non-toxic.
 8. Primary Composition:
 - a. Vehicle: Vinyl acrylic resin.
 - b. Pigment: Titanium dioxide, calcium carbonate, silicate wetting and stabilizing agents, and water.
 9. Weight: 10.6 pounds per gallon.
 10. Specific Gravity: 1.26.
 11. Viscosity: 70 to 75 Krebs at 75 degrees F.
 12. Solids: 40 percent plus or minus 1 percent.
 13. Color: White.
- B. Application rate to acoustical ceiling tiles, approximately 300 square feet per gallon, dependent on tile surface characteristics.
- C. ProCoat Grid Cleaning Solution:
1. Chemically compatible with acoustical tile coating.
 2. Does not leave a film to prevent acoustical tile coating from bonding to nonporous surfaces.
- D. ProCoat Acoustical Tile and Ceiling Cleaner:
1. Chemically compatible with acoustical tile coating.
 2. Does not leave contaminants that could bleed through and discolor acoustical tile coating.
 3. Odorless, biodegradable, and fabric safe.
 4. Does not contain caustic bleaches.

PART 3: EXECUTION

3.1 EXAMINATION

- A. Examine ceilings to receive restoration work. Notify Construction Manager if ceilings are not structurally sound* or if grid requires leveling. Do not begin application until unacceptable conditions have been corrected. * Note: "Structurally Sound" is considered dry, solid, whole, and flat.
- B. Determine if random tiles have been replaced with new ones, resulting in a "checkerboard" effect. Relocate the new tiles into one area so as to create as much uniformity of color as possible.

3.2 MANUFACTURER'S PREPARATION PROCEDURE

- A. Cover walls, floors, equipment, furnishings, merchandise, and other surfaces to be protected against dry-fall spray dust with plastic sheets or drop cloths. Where two pieces of plastic sheeting are overlapped, seal seam to prevent dry spray dust from passing through.
- B. Shut off HVAC system and cover intake grills/vents or other mechanical air movement equipment to prevent dust from being spread throughout building. Maintain shut down until excess dust has been removed from the area being treated.
- C. Mask light fixtures, sprinkler heads, smoke detectors, security lights, and other items to be protected against direct spray.
- D. Prepare surfaces in accordance with manufacturer's instructions
- E. Pre-treat ceiling water stains with a primer/sealer in aerosol.
- F. Apply grid cleaning solution to grids and other nonporous surfaces to be coated to remove dirt, oil, grease, nicotine, and other contaminants to ensure proper bonding of acoustical tile coating.
- G. Pre-treat tiles saturated with grease or nicotine with acoustical tile cleaner to prevent discoloration of acoustical tile coating.

3.3 MANUFACTURER'S APPLICATION PROCEDURE

- A. Apply acoustical tile coating in accordance with manufacturer's instructions at ceiling locations indicated on the drawings.
- B. Spray acoustical tile coating on acoustical ceiling tiles, exposed suspension grid system and air diffusers.
- C. Spray additional acoustical tiles to be placed in the storeroom for future use.

3.4 AREA CLEANING

- A. Remove protective plastic sheets, drop cloths and masking materials, and dispose of in containers provided by the General Contractor.
- B. Remove remaining spray dust from any fixtures, merchandise or equipment at the direction of Contractor's Project Manager.

3.5 PROTECTION

- A. Protect installed products until completion of Project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION