

SECTION 09840
ACOUSTICAL WALL TREATMENT

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Custom fabricated acoustical wall panels.

1.02 REFERENCES

- A. ASTM International:
1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:
1. Surface Burning Characteristics (ASTM E84):
 - a. Flamespread: 25 maximum.
 - b. Smoke Developed: 450 maximum.
 - c. Fire ratings for all fabric covered panels is based on testing of the panel wrapped with the standard in stock fabric, Guilford of Maine, Model FR 701.
 - d. This rating applies to all acoustical wall treatment unless specifically excluded in the product specification section 2.02.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.
- D. Samples: Submit selection and verification samples of finishes, colors and textures.
- E. Test Reports: Certified test reports showing compliance with specified performance requirements.
1. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Section.

- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install panels until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F (16 - 27 degrees C) and 35% MINIMUM RH and 55% MAXIMUM RH, respectively. All products constructed with wood or wood fiber content must be stored for at least 72 hours in the controlled environment specified herein prior to installation to allow the materials to stabilize.

PART 2 PRODUCTS

2.01 ACOUSTICAL WALL PANELS

- A. Manufacturer: Kinetics Noise Control.
 - 1. Contact: Tim O'Neill, O'Neill Engineered Systems, Inc. 1420 E. Bristlecone Drive, Hartland WI 53029; Telephone: (262) 367-6700; Fax: (262) 367-6760; E-mail: toneill@noiseproblems.com; Web site: www.noiseproblems.com
- B. Substitutions: No substitutions permitted.

2.02 MANUFACTURED UNITS

- A. Tuned Absorber Diffuser, Model TAD Panels:
 - 1. Thickness: [1-1/8 inches (28.5 mm)]. Optional thicknesses available see Item 3.
 - 2. Size: 24 inches (588 mm) x 24 inches (588 mm), 24 inches (588 mm) x 48 inches (1176 mm), 48 inches (1176 mm) x 48 inches (1176 mm), 48 inches (1176 mm) x 72 inches (1764 mm), 48 inches (1176 mm) x 96 inches (2352 mm). Optional: Custom sizes are available, however, panel cutting for some dimensions may interfere with the laminate hole pattern which could be visible at the panel's edge.
 - 3. Core: [1 inch (24.5 mm)] thick 5-7 pcf (80 – 112 kg/m³) density fiberglass. Optional: [2 inch (49 mm)], [3 inch (73.5 mm)], and [4 inch (98 mm)] thick cores for greater low frequency absorption.
 - 4. Edge Detail: [Square] [Bevel] hardened with non-resin, Class A hardening solution
 - 5. Impact resistant, 1/8 inch (6 mm) thick hardboard facing laminated to the core. Randomized 1/2 inch (12 mm) diameter hole pattern designed to tune the panel for greater absorption in the 250 to 1000 Hz frequency range while providing increased diffusion of reflected sound relative to a flat surface.
 - 6. Fabric Facing: [100% polyester fabric, FR 701 Style 2100 by Guilford of Maine] [Factory approved customer selected fabric]. Designer selected fabrics must be approved by the panel manufacturer as acceptable quality for wrapping and covering core materials. Some fabrics are unstable, too stiff, or lack the weight and thread density for producing an acceptable finish product.
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].
 - 7. Sound Absorption (ASTM C423): Noise Reduction Coefficient of 0.70. Absorption coefficients in the 2500 Hz to 5000 Hz frequency range shall not exceed 0.55 at any single 1/3 octave band.

Specifier note: NRC, sound absorption data is based on testing with Guilford FR701 fabric. To maintain specified sound absorption, fabrics should be selected that allow air to pass easily through the material into the acoustical core.

8. Scattering Coefficients per ISO 17497-1, Acoustic Sound Scattering Properties of Surfaces, must average 0.12 or greater for 1/3 octave bands from 800 Hz to 10,000 Hz (1-1/8 inch panel thickness).
9. Mounting Accessories: [HS impaling clips] [Z-brackets].
10. Surface Burning Characteristics: The fiberglass core and Guilford FR701 fabric have been tested and achieved a Class A rating per ASTM E84. The 1/8 inch thick laminate is not included in the fire test results and may change the composite panel's fire rating.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 1. Verify that stud spacing is 16 inches (406 mm) oc, maximum, for panels installed over open studs.
 2. Do not install panels until unsatisfactory conditions are corrected.

3.03 CLEANING

- A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.
- B. Keep site free from accumulation of waste and debris.

END OF SECTION