

SECTION 098436 - SOUND CEILING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes shop-fabricated, fabric-wrapped panel units tested for acoustical performance, including:
 - 1. Sound-diffusing panels.
 - 2. Ceiling Fins
- B. Related Requirements:
 - 1. Section 09113 "Acoustical Panel Ceilings" for metal suspension systems for which sound-diffusing panels are to be installed.
 - 2. Section 098433 "Sound-Absorbing Wall Units" for shop-fabricated fabric-wrapped wall panels tested for acoustical performance.

1.3 DEFINITIONS

- A. NRC: Noise reduction coefficient.
- B. SAA: Sound absorption average.

1.4 REFERENCES

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

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, mounting, material descriptions, dimensions of individual components and profiles, and finishes for sound-absorbing ceiling units.
 - 2. Include furnished specialties and accessories.
- B. Shop Drawings: For sound-absorbing ceiling units.
 - 1. Include plans, elevations, sections, and mounting devices and details.
 - 2. Include details at joints and corners; and details at ceiling intersections. Indicate panel edge and core materials.
 - 3. Include reflected ceiling plans showing panel sizes.
- C. Samples for Verification: For the following products:
 - 1. Mounting Devices: Full-size Samples.
 - 2. Panels: 12-inch- (300-mm-) square Sample.

1.7 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of sound ceiling unit.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sound-absorbing ceiling units to include in maintenance manuals. Include fabric manufacturer's written cleaning and stain-removal recommendations.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and units in unopened bundles and store in a temperature-controlled dry place with adequate air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product by Kinetics Noise Control, Inc., or comparable product by one of the following:
 - 1. Essi Acoustical Products.
 - 2. MBI Products Company, Inc.
- B. Source Limitations: Obtain sound-absorbing ceiling units from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: Provide sound-absorbing ceiling units meeting the following requirements as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2.
- B. Sound-Diffusing Ceiling Panel: Manufacturer's standard panel designed for installation in a standard 15/16 inch- (24 mm-) wide acoustical panel ceiling suspension system.
 - 1. Basis-of-Design Product: Kinetics Noise Control, Inc.; Geometric Diffusers.
 - a. Essi Acoustical Products; Barrel Shaped Diffusers.
 - b. MBI Products Company, Inc.; MBI Barrel Diffuser.
 - 2. Panel Shape: Barrel.
 - 3. Mounting: Back mounted with manufacturer's standard suspension system with stiffening, back-support angles, secured to substrate.
 - 4. Core: Thermo-molded, 0.125 inch (3.2 mm) thick, co-polymer or fiberglass, prepared for required acoustical performance.
 - 5. Edge Construction: Manufacturer's standard rounded pencil edge, thermo-molded frame.
 - 6. Facing Material: Manufacturer's standard white textured finish.
 - 7. Acoustical Performance: Sound absorption NRC of not more than 0.10 according to ASTM C 423 for Type A mounting according to ASTM E 795.
 - 8. Panel Width: 24 inches (610 mm).
 - 9. Panel Height: 48 inches (1220 mm).
- C. Ceiling Fins:
 - 1. Basis of Design: Frontier; Dune as manufactured by Autex.
 - 2. Acoustic absorber Frontier TM fins custom length x (12" nominal / Axis 6") depth x 1/2" gauge, spaced as indicated on drawings.
 - 3. Color as selected by Architect from manufacturer's full color line,
 - 4. Sound absorption: 4"/8" centers
 - 5. ASTM E-84-15a -1": Class A, FS:0 - SD:45.

2.3 MODULAR ACOUSTIC CEILING SYSTEM

- A. Basis-of-Design: QuietSpace Frontier, Dune Style as manufactured by Autex Interior Acoustics.
- B. Acoustic absorber Frontier fins:
 - 1. As indicated on drawings x 1' nominal depth x 1/2" gauge, spaced at 2' O.C.
 - 2. Colors as selected by Architect from manufacturer's full line

3. Sound absorption: 3.94/7.87" centers Class B, 11.81" centers Class C
4. Fire Rating: 1/2" ASTM E-84-15a Class A, FS:0 - SD:45
5. Supply with Quietspace Frontier Connector Clips, Frontier Channel, Frontier Fins.
6. Fix with angle clips fasteners appropriate for the substrate.
7. Provide hangers as required for complete installation.

2.4 CEILING CLOUDS (CP-1)

- A. Ceiling Cloud: Basis-of-Design: Autex APA direct mount as manufactured by. Autex Interior Acoustics.
1. Impact resistance tested to Class 1A; not affected by impact velocities over 52.5'/s
 2. Manufactured under ISO 9001 and ISO 14001 accredited Quality and Environmental Management Systems.
 3. Sound absorption: Class D, NRC 0.40
 4. Fire rating: ASTM E-84 Class A, FS:5 - SD:25
 5. ISO 9705: Classification: Group 1-S
 6. AS ISO 9705 – 2003: Classification: Group 1
 7. EN13501-1:2007+A1:2009: Classification: B - s1, d0

2.5 CEILING CLOUD (CP-2)

- A. Sound-Absorbing Ceiling Cloud: Manufacturer's standard panel construction consisting of facing material stretched over front face of edge-framed core and bonded or attached to edges and back of frame.
1. Basis-of-Design Product: Kinetics Noise Control, Inc.; HardSide.
 - a. Essi Acoustical Products; Silentspace.
 - b. MBI Products Company, Inc.; Colorsonix.
 2. Mounting: Edge mounted with splines secured to substrate.
 - a. Finish Color at Exposed Edges: Match color of facing material.
 3. Mounting: Suspend cloud panels using wire, cable or other acceptable mechanism attached to eye screws on the back unfaced side of the cloud panels.
 4. Core: Glass-fiber board.
 5. Edge Construction: Manufacturer's standard chemically hardened core with no frame.
 6. Edge Profile: Square.
 7. Corner Detail in Elevation: Square with continuous edge profile indicated.
 8. Reveals between Panels: Flush reveals.
 9. Facing Material: As indicated on Drawings.
 10. Acoustical Performance: Sound absorption NRC of not less than 1.00 according to ASTM C 423 for Type A mounting according to ASTM E 795.
 11. Nominal Core Thickness: 2 inch (51mm).
 12. Panel Width: As indicated on Drawings.
 13. Panel Height: As indicated on Drawings.

2.6 FABRICATION

- A. General: Use manufacturer's standard construction except as otherwise indicated, with rigid edges to reinforce panel perimeter against warpage and damage.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fabricated units, areas, and conditions for compliance with requirements, installation tolerances, and other conditions affecting performance of sound ceiling units.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with sound ceiling unit manufacturer's written instructions for installation of units using type of mounting devices indicated. Mount units securely to supporting substrate.

3.3 CLEANING

- A. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 098436

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