

SECTION 09 8436 SOUND-ABSORBING CEILING UNITS

(Acoustic Baffles – Wood Veneer and High-Pressure Laminate)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Factory-fabricated vertically suspended acoustical baffles consisting of an acoustically absorptive core faced on both sides with wood veneer or high-pressure laminate, together with the suspension hardware, hanging accessories and trim required for attachment of aircraft cable to the Baffle
 - 1. Product: AAPG Acoustic Baffles.
 - 2. Facings: [Real Wood Veneers LLC “AA” architectural veneer.] [High-pressure laminate.]
- B. Products Not Furnished or Installed Under This Section:
 - 1. Structural support, blocking, and attachment points in the overhead structure.
 - 2. Suspended acoustical tile ceilings and metal suspension grid.
 - 3. Lighting, sprinklers, and mechanical devices integrated with or penetrating the baffle field.
 - 4. Aircraft cable and attachment fasteners to attach aircraft cable to the structure

1.2 RELATED SECTIONS

- A. Section [] - Rough Carpentry (blocking and backing).
- B. Section [] - Metal Fabrications (support framing).
- C. Section [] - Acoustical Ceilings.
- D. Section [] - Interior Lighting.
- E. Section [] - Fire Suppression Sprinkler Systems.
- F. Section 09 8436 - Sound-Absorbing Ceiling Units (Acoustic Clouds).

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 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.
 - 4. ASTM C635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
 - 5. ASTM C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
- B. American National Standards Institute (ANSI):
 - 1. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications.
- C. Architectural Woodwork Standards, as jointly published by AWI, AWMAC, and WI, Edition 1.
- D. International Building Code (IBC), Chapter 8 - Interior Finishes, and applicable seismic design requirements.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data for each product specified, including baffle profiles, core construction, facing materials, suspension hardware, and installation methods.
- B. Shop Drawings: Submit reflected ceiling plans and sections indicating baffle layout, orientation, length, depth, spacing, elevation and mounting height, suspension point

locations, attachment details, and coordination with lighting, sprinklers, diffusers, and other overhead devices.

1. Indicate end conditions, alignment tolerances, and the treatment of baffles at walls and penetrations.
 2. Indicate seismic restraint and lateral bracing details where required by the authority having jurisdiction.
- C. Selection Samples: Submit manufacturer's standard color, veneer, and pattern selection samples representing the full range of available finishes.
- D. Samples for Verification: Submit one baffle sample, minimum 12 inches (305 mm) long and full section depth, for each facing selected, showing the edge treatment, core, and both finished faces.
- E. Acoustical Performance Data: Submit independent laboratory test reports establishing sound absorption in accordance with ASTM C423.
1. Report absorption as sabins per baffle at the tested spacing and mounting height, and identify the tested spacing.
- Suspended baffles are correctly rated in sabins per unit, not NRC, because absorption depends on unit spacing and both exposed faces. An NRC figure for a baffle is not a meaningful comparison.*
- F. Fire-Test Data: Submit independent test reports showing surface burning characteristics of the finished baffle in accordance with ASTM E84.
- G. Structural Data: Submit the weight per baffle and per linear foot, and manufacturer's data or calculations confirming the suspension method and attachment capacity.
- H. Safety Data Sheets (SDS): Submit manufacturer's Safety Data Sheets for adhesives, sealants, and other pertinent materials prior to their delivery to the site.
- I. Maintenance Instructions: Submit manufacturer's cleaning and maintenance instructions.

1.5 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain baffles and suspension hardware from a single manufacturer.
- B. Surface Burning Characteristics: Provide finished baffles with a [Class A (Class 1): flame-spread index 25 or less, smoke-developed index 450 or less] [Class C] rating when tested in accordance with ASTM E84.
- C. Installer Qualifications: Engage an installer experienced in the installation of suspended architectural ceiling systems and acceptable to the manufacturer.
- D. [Mockup: Provide a mockup of not less than three baffles at the specified spacing, including a typical suspension point, for review. Approved mockup may remain as part of the Work.]

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver units and associated materials factory-packaged on sturdy pallets, properly packaged and protected against soiling, moisture, and physical damage.
1. Upon delivery, carefully inspect all cartons, packages, pallets, and protective wrap for damage or material shortage.
 2. Immediately report any damaged or missing materials to the shipper and to AAPG.
 3. Do not commence installation if any components are missing or damaged.
 4. Contact AAPG with any questions, problems, or concerns.
- B. Storage: Store products flat, in the manufacturer's unopened packaging, in a clean, dry, conditioned interior space until ready for installation. Do not store units on edge or beneath other materials.
- C. Handling: Handle units with clean, dry hands or gloves to avoid soiling finished faces. Maintain protective wrap in place during on-site handling until ready for installation. Do not drag or stack units face-to-face after removal of protection.

- D. Support baffles along their full length when handling; do not lift or carry long baffles by one end.

1.7 PROJECT CONDITIONS

- A. Wood composite and laminate products are subject to the effects of humidity and temperature. Do not use in exterior, high-humidity, or wet locations.
- B. Do not install units until all wet work is complete and dry, the building is enclosed and weathertight, and the HVAC system is operating and balanced to normal operating conditions.
- C. Environmental Conditions: Maintain temperature, humidity, and ventilation within the limits recommended by the manufacturer. Maintain a temperature range of 60 to 80°F (16 to 27°C) and a relative humidity range of 35 to 55 percent during storage, installation, and the product life cycle. Follow the environmental guidelines specified by AWI.
- D. Do not install suspended units until overhead work, including mechanical, electrical, fire protection, and structural work, is complete and inspected.

1.8 COORDINATION AND SEQUENCING

- A. Coordinate baffle layout with the reflected ceiling plan, lighting, sprinkler heads, air devices, speakers, and structural members before fabrication.
- B. Coordinate the location and capacity of overhead attachment points with the structural trades and confirm they are in place before delivery.
- C. Sequence installation to follow completion of all work above the baffle field.

1.9 WARRANTY

- A. Manufacturer's Warranty: Submit the manufacturer's standard written warranty covering materials and workmanship against defects for a period of [one (1) year] from the date of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturer: American Architectural Products Group (AAPG), 248 James Street, Venice, FL 34285. Telephone: +1-844-307-9571. Email: pwest@aapgco.com.
- B. Product: AAPG Acoustic Baffles.
- C. Distributor: Koroseal Interior Products, 1111 Medina Road, Medina, OH 44256. Telephone: 855-753-5474. Email: info@koroseal.com.

2.2 SUBSTITUTIONS

- A. [No substitutions permitted.] [Substitutions permitted in accordance with Section 01 25 00 - Substitution Procedures.]

2.3 BAFFLES

- A. Baffle Construction: Factory-assembled unit finished on both faces and all exposed edges, suitable for viewing from any direction.
- B. Core: [Medium-density fiberboard (MDF) conforming to ANSI A208.2, industrial grade, with No Added Formaldehyde.] [Molded polyester (PET) acoustical core, minimum 60 percent recycled content.] [Mineral wool or fiberglass core encapsulated within a rigid frame.]
 - 1. [Acoustic Infill: Mineral wool or polyester batt encapsulated within the baffle, minimum [] pcf density.]
- C. Baffle Dimensions:
 - 1. Depth (Vertical Dimension): [4 inches (102 mm)] [6 inches (152 mm)] [8 inches (203 mm)] [12 inches (305 mm)] [As indicated on the Drawings].
 - 2. Length: [Nominal 48 inches (1219 mm)] [Nominal 96 inches (2438 mm)] [As indicated on the Drawings]. Provide continuous runs with concealed splices where indicated.
 - 3. Thickness: [1 inch (25 mm)] [1-1/2 inches (38 mm)] [2 inches (51 mm)].

- D. Profile: [Rectangular.] [Tapered.] [Radiused bottom edge.] [Custom profile as indicated on the Drawings.]
- E. Wood Veneer Facing: Real Wood Veneers “AA” architectural-grade wood veneer laminated to both faces of the core and coated with a furniture-grade catalyzed finish as a protective topcoat.
 - 1. Veneer Face: 0.010 inch (0.25 mm) to 0.015 inch (0.38 mm), with a catalyzed finish of approximately 0.003 inch (0.08 mm).
 - 2. Species and Cut: [] [As selected by the Architect from the manufacturer’s selection.]
 - 3. Grain Direction: [Along the length of the baffle.] [As indicated on the Drawings.]
 - 4. [Wood veneer stained to match approved submittal.] [Natural finish with clear topcoat.]
- F. High-Pressure Laminate Facing: Vertical-grade high-pressure plastic laminate adhered to both faces of the core.
 - 1. Color and Pattern: [] [As selected by the Architect from the manufacturer’s standard selection.]
 - 2. [Provide differing colors on opposing faces where indicated on the Drawings.]
- G. Edges: All four edges finished and sealed to match the faces. Exposed bottom edges shall be free of substrate show-through.
- H. Acoustical Performance: Provide baffles achieving the following minimum sound absorption when tested in accordance with ASTM C423 at the indicated spacing:

Baffle Depth	Spacing On Center	Sabins per Baffle
6 inches (152 mm)	12 inches (305 mm)	9
8 inches (203 mm)	16 inches (406 mm)	11
12 inches (305 mm)	24 inches (610 mm)	18

2.4 SUSPENSION HARDWARE AND ACCESSORIES

- A. Suspension Method: [Aircraft cable with adjustable gripper and ceiling attachment.] [Rigid rod suspension.] [Continuous concealed carrier rail with baffle clips.] [Direct attachment to structure.]
- B. Cable and Grippers: Galvanized or stainless steel aircraft cable with a minimum safety factor of 5:1 against the supported load. Provide adjustable grippers permitting field leveling.
- C. Attachment Devices: Corrosion-resistant anchors, hangers, and fasteners suitable for the overhead structure, rated for the imposed load.
- D. Provide all clips, end caps, splice connectors, and trim recommended by the manufacturer for a complete installation.
- E. Finish of Exposed Hardware: [Manufacturer’s standard.] [White.] [Black.] [Match adjacent finish.]

2.5 FABRICATION

- A. Factory-fabricate baffles to the sizes, profiles, and lengths indicated, complete with factory-installed suspension attachment points, ready to install.
 - 1. Locate and reinforce suspension points to carry the baffle load without deflection, distortion, or facing damage.
 - 2. Finish and seal all faces and edges; no unfinished substrate shall be visible in the completed installation.
 - 3. Sequence and mark baffles to maintain veneer color, grain progression, and pattern continuity as shown on the shop drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Installer's Examination: Examine the structure and conditions under which the Work of this Section is to be performed. Submit written notification to the Architect and the system manufacturer if such conditions are unacceptable. Beginning installation constitutes the installer's acceptance of conditions.
 - 1. Verify that overhead attachment points are installed, correctly located, and capable of supporting the imposed loads.
 - 2. Verify that all work above the baffle field, including mechanical, electrical, fire protection, and structural work, is complete and inspected.
 - 3. Verify that the deck or structure visible between baffles is finished as indicated.

3.2 PREPARATION

- A. Conditioning: Allow baffles to acclimate to a balanced environment in the installation location for 72 hours prior to installation.
- B. Protect completed work below with drop cloths.
- C. Before installing, examine baffles and arrange them to achieve the best combination of color, grain, and pattern in the sequence provided by the manufacturer.

3.3 INSTALLATION

- A. Install baffles in strict accordance with the manufacturer's installation instructions and the approved shop drawings.
 - 1. Suspend baffles level, plumb, and true to line at the spacing, orientation, and elevation indicated.
 - 2. Secure all suspension points to structure; do not attach to ductwork, piping, conduit, or other non-structural elements.
 - 3. Adjust grippers so that all baffles align at a uniform elevation and hang without twist, bow, or visible cable slack.
 - 4. Maintain consistent grain direction and finish orientation across the baffle field.
- B. Seismic Restraint: Where required by the authority having jurisdiction, provide lateral bracing and restraint in accordance with the approved details and applicable code.
- C. Installation Tolerances: Install baffles within 1/8 inch (3 mm) of the indicated elevation, with a maximum variation of 1/8 inch in 12 feet (3 mm in 3.6 m) along a run, and uniform spacing within 1/8 inch (3 mm).
- D. Avoid contamination of finished faces with adhesives, solvents, cleaners, or fingerprints during installation.

3.4 CLEANING AND PROTECTION

- A. Clean and remove dust and other foreign matter from baffle surfaces. Clean finishes in accordance with the manufacturer's instructions; do not use solvents or abrasive cleaners.
- B. Protect installed baffles from damage and soiling until Substantial Completion. Replace units that cannot be cleaned or repaired to the Architect's satisfaction.

END OF SECTION 09 8436