SECTION 09 8433
SOUND-ABSORBING WALL UNITS

(Panawall® Acoustic Panels – Wood Veneer and High-Pressure Laminate)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Factory-fabricated acoustical wall panels consisting of a perforated or grooved wood fiber substrate faced with wood veneer or high-pressure laminate, backed with an acoustically transparent fleece and acoustic infill, together with the pre-engineered clip and rail hardware, trim, and accessories required for installation directly to studs or a solid substrate.

1. Product: Panawall® Acoustic Panel System.
2. Facings: [Real Wood Veneers LLC “AA” architectural veneer.] [High-pressure laminate.]
3. Hardware: Aluminum rails, panel clips, and fixing hardware.

B. Products Not Furnished or Installed Under This Section:

1. In-wall blocking, backing, and furring for panel attachment.
2. Drywall or gypsum board, substrate preparation, and priming.
3. Insulation within the wall cavity behind the panel system.

1.2 RELATED SECTIONS

A. Section [_____] - Rough Carpentry (blocking and backing).

B. Section [_____] - Wood and Metal Stud Framing.

C. Section [_____] - Gypsum Board Assemblies.

D. Section [_____] - Acoustic Insulation.

E. Section 09 7710 - Framed Decorative Panel Systems (Panawall®, non-acoustic).

F. Section [_____] - Painting and Transparent Finishes.

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.

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.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer’s data for each product specified, including perforation or groove patterns, open area percentages, preparation instructions, storage and handling requirements, and installation methods.

B. Shop Drawings: Submit elevations of each wall indicating panel layout, dimensions, perforation pattern orientation, reveal and joint locations, hardware and mounting details, and the location of all discontinuities, penetrations, and trim members.

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 sample for each facing and perforation pattern selected, minimum 5 inches by 7 inches (127 mm by 178 mm), complete with exposed edge treatment and acoustic backer, indicating type, finish, and color.
   1. Wood Veneer: Submit sample sets showing the full range of normal color and texture variation expected.
E. Acoustical Performance Data: Submit independent laboratory test reports showing Noise Reduction Coefficient (NRC) determined in accordance with ASTM C423, with the mounting type per ASTM E795 clearly identified.
F. Fire-Test Data: Submit independent test reports showing surface burning characteristics of the finished panel in accordance with ASTM E84.
G. Safety Data Sheets (SDS): Submit manufacturer's Safety Data Sheets for adhesives, sealants, and other pertinent materials prior to their delivery to the site.
H. Maintenance Instructions: Submit manufacturer's cleaning and maintenance instructions.

1.5 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain acoustical panels, hardware, and trim from a single manufacturer.
B. Surface Burning Characteristics: Comply with building code requirements for interior finish when tested in accordance with ASTM E84.
   1. Required Rating: [Class A (Class 1): flame-spread index 25 or less, smoke-developed index 450 or less.] [Class C: flame-spread index 76 to 200.]
C. [Mockup: Provide one full-size panel of each facing and perforation pattern 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. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with the requirements of authorities having jurisdiction.

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. To ensure product performance, 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. Partition walls shall be finished and the building completely closed. Walls shall be thoroughly dry, and concrete shall be cured and dry, before installation begins.

1.8 COORDINATION AND SEQUENCING

A. Except as specified by the Architect, locate trim members and panel joints so that panel lines coordinate with doors, headers, jambs, and other discontinuities in a wall.

B. Provide a vapor barrier on exterior walls behind the backing to discourage warping.

C. Coordinate the location and depth of cavity insulation with the acoustical performance required, as indicated on the Drawings.

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: Panawall® Acoustic Panel System.

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 HARDWARE

A. Horizontal Cross-Rail Framing:

1. H-HR10A Horizontal Rail: For creating detailed reveals; furnished in full 10-foot (3.05 m) lengths.
2. H-PC-1 Panel Clip: Clip on which panels are secured.
3. H-RT Reveal Tape.

B. Panel Fixings:

1. H-FS-1 Panel Secure Fasteners.

C. Provide all clips, anchors, fasteners, and trim recommended by the manufacturer for the specified substrate and mounting method.

2.4 PANELS

A. Panel Configuration:

1. Face Dimensions: [Nominal 24 inches (610 mm) wide by 24 inches (610 mm) high.] [As indicated on the Drawings.]
2. Panel Thickness: ¾ inch (19 mm)

B. Wood Fiber Substrate: Medium-density fiberboard (MDF) conforming to ANSI A208.2, industrial grade, [comprising not less than 75 percent recycled wood waste] [with No Added Formaldehyde].

C. Acoustic Perforation Pattern: Factory-machined through the panel face and substrate.

1. Pattern: [Micro-perforated: 0.020-inch (0.5 mm) diameter holes.] [Perforated: 1/8-inch (3 mm) diameter holes.] [Slotted: linear slots with solid face reveal.] [Grooved: linear grooves with concealed perforation.]

2. Open Area: [_____] percent, as required to achieve the specified acoustical performance.
3. Pattern Orientation: [Vertical.] [Horizontal.] [As indicated on the Drawings.]

D. Acoustic Backer: Acoustically transparent non-woven black fleece factory-laminated to the panel back, continuous across all perforations.
1. [Acoustic Infill: Nominal 1-inch (25 mm) thick mineral wool or polyester (PET) batt, minimum [_____] pcf density, factory-applied to the panel back.]
2. [Air Space: Provide nominal [1 inch (25 mm)] [2 inches (51 mm)] [4 inches (102 mm)] air cavity behind panels, with cavity insulation as indicated.]

E. Wood Veneer Panels: Real Wood Veneers “AA” architectural-grade wood veneer laminated to the perforated substrate and coated with a furniture-grade catalyzed finish as a protective topcoat.
1. Edges: Square cut and sealed.
2. Balancing Backer: Wood veneer measuring between 0.015 inch (0.38 mm) and 0.025 inch (0.64 mm).
3. 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).
4. Species and Cut: [_____] [As selected by the Architect from the manufacturer’s selection.]
   a. Grain Direction: [Vertical.] [Horizontal.]
5. [Wood veneer stained to match approved submittal.] [Natural finish with clear topcoat.]

F. High-Pressure Laminate Panels: Vertical-grade high-pressure plastic laminate adhered to the perforated wood fiber substrate.
1. Edges: Square, and edged to match the face.
2. Balancing Backer: Kraft paper.
3. Color and Pattern: [_____] [As selected by the Architect from the manufacturer’s standard selection.]

G. Acoustical Performance: Provide panels achieving the following minimum Noise Reduction Coefficient (NRC) values when tested per ASTM C423:

Perforation Pattern / Assembly	Mounting (ASTM E795)	NRC
Perforated, no infill, direct mount	Type A	[0.85]
Perforated with fleece and 1 in. infill	Type A	[0.95]
Perforated, infill, 2 in. air cavity	Type E-400	[1.00]

2.5 ADHESIVES

A. Faces applied with PVA adhesive as recommended by the manufacturer.

2.6 FABRICATION

A. Factory-finish all framing, panels, hardware, and accessories ready to install, except for field fabrication required by jobsite and perimeter conditions.
1. Machine perforations cleanly and uniformly, free of tear-out, burning, and raised fibers; align patterns consistently from panel to panel.
2. Refinish field-cut panel edges in accordance with the manufacturer’s instructions before installation.
3. At all cut-outs, drill corners to a minimum 1/8-inch (3 mm) radius.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Installer's Examination: Examine the substrates 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 a vapor barrier has been provided on exterior walls behind the backing to prevent warping.
   2. Verify that backing panels are smooth, solid, and flat, and that all drywall joints are taped and finished.
   3. Verify that walls are primed and, where visible through perforations, painted [black] before installation begins.
   4. Verify that cavity insulation, where required for acoustical performance, is installed and secured.
   5. Verify that mechanical, electrical, and building service items affecting the Work of this Section are placed and ready to receive this Work.
   6. Verify that sufficient blocking is provided.

3.2 PREPARATION

A. Conditioning: Allow panels to acclimate to a balanced environment in the installation location for 72 hours prior to installation. Follow AWI standards and report conditions prior to installation

B. Protect existing surfaces with drop cloths.

C. Except as directed by the architectural Drawings, examine panels before installing and arrange them to achieve the best combination of color, pattern, texture, and grain. For book-matched panels, follow the sequence provided by the manufacturer.

3.3 INSTALLATION

A. Install all materials in strict accordance with the manufacturer's installation instructions, with hardware straight, plumb, and level.
   1. Anchor units rigidly and securely in place.
   2. Maintain the specified air cavity depth behind panels; do not compress infill or crush the acoustic backer.
   3. Align perforation patterns continuously across adjacent panels.

B. Fasten vertical and horizontal trim using #6 trim-head screws anchored into a stud or other solid substrate at 16 inches (406 mm) on center.

C. Installation Tolerances: Install panel faces flush and aligned, with a maximum variation of 1/16 inch (1.6 mm) between adjacent panels and 1/8 inch in 8 feet (3 mm in 2.4 m) from level and plumb.

D. Avoid contamination of the panel faces with adhesives, solvents, or cleaners during installation.

3.4 CLEANING AND PROTECTION

A. Clean and remove dust and other foreign matter from panel and framing surfaces. Vacuum perforations with a soft brush attachment; do not force debris into the acoustic backer.

B. Clean finishes in accordance with the manufacturer's instructions; do not use solvents or abrasive cleaners.

C. Protect installed panels from damage and soiling until Substantial Completion.

END OF SECTION 09 8433