



SECTION 09 54 26
Perforated Wood Panel System

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general conditions of the contract, including general and supplementary conditions and division 1 specification sections, apply to the work of this section.

1.2 SUMMARY

- A. Section includes:

1.Sound absorptive panels.

- B. Related sections

1.Section 01350 – Special Environmental Requirements

2.Section 09800 – Acoustical Treatment

3.Section 092116 – Gypsum Board Assemblies (by others)

1.3 SUBMITTALS

Comply with Section 013300 – Submittal Procedures

Product Data: Manufacturer's technical data and installation instructions for each type of wall panel required.

Certifications: Certified test reports showing compliance with performance requirements specified.

Samples: Submit a minimum of three (3) samples of each panel type and finish type required. Include samples that show the range of variation expected in grain, texture, and color.

Shop Drawings: Submit shop drawings, including details, for all walls. Coordinate wall panel layout, installation, and suspension system components. Show overall layout with dimensions and details of penetrations and intersections with other materials or building components.

LEED Requirements: Where specified, submit required documentation indicating compliance.

Submit operation and maintenance data for installed products. Include precautions relating to harmful cleaning materials and methods that would affect the service life of the panels.

1.4 QUALITY ASSURANCE

- A. **Single Source Responsibility:** Provide acoustic panels from a single manufacturer with at least 5 years of prior experience fabricating projects of similar size and complexity.
- B. **Installer:** Installation shall be done by qualified carpenters with at least 2 years experience in the installation of architectural woodwork or acoustical wall material. Installers must receive training on handling, cutting, machining and field finishing the specified product prior to receiving materials on site.
- C. **Fire Performance Characteristics:** Class A as tested by an independent accredited testing facility. Tests: ASTM E84. Flame spread: 25 or less. Smoke developed: 450 or less as specified by state or local codes.
- D. **Applicable LEED Credits:**
 - 1. MRc4 Recycled Content
 - 2. Material Ingredient Disclosure – Option 1
 - 3. EQ 9 Enhanced Acoustical Performance
- E. **Coordination of Work:** Installing contractor shall organize and conduct a pre-installation survey of temperature, humidity and construction elements attaching, penetrating, or concealed behind the acoustic wall panels.

1.5 REFERENCES

- B. A. **Test Methods:**
 - 1. **ASTM C423** Sound absorption and sound absorption coefficients by the reverberation room method performed by an independent testing agency.
 - 2. **ASTM E84** Standard test method for surface burning characteristics of building materials.
 - 3. **ASTM D1037** Linear expansion with change in moisture content.

1.6 DELIVERY, STORAGE AND HANDLING

- C. A. Deliver panels to the project in original, unopened packages. Inspect containers for visible damage and report any questionable condition to the shipper and manufacturer immediately.
- D. Store products in a fully enclosed, clean, dry space out of direct sunlight and protected from damage with temperature controlled between 50 and 86 degrees F.
- E. Handle products carefully to avoid damaging panel surfaces or chipping edges. Report any damage immediately. Installation of damaged panels is not covered by the manufacturer's warranty.

1.7 PROJECT CONDITIONS

- A. Do not install acoustic panels until space is enclosed and weather-proofed, wet work is completely dry and ambient temperature and humidity conditions are maintained at the levels indicated for the project when occupied for its intended use.
- B. Permit panels to reach room temperature, 50 to 86 degrees F, and stabilized moisture content of 25% to 55% RH for at least 72 hours before installation per AWI standards. Building should be enclosed and HVAC systems functioning in continuous operation with relative humidity maintained between 25 and 55 percent.

1.8 WARRANTY

- A. Provide manufacturer's standard one-year written product warranty per Section 01770 – Closeout Procedures
- B. Manufacturer's warranty is limited to decorative or acoustical materials only. Other components used in the set up are excluded. Refer to the appropriate provisions in the related specification section.

1.9 MAINTENANCE

- A. **Maintenance Instructions:** Provide manufacturer's standard maintenance and cleaning instructions for finishes provided.

PART 2 – PRODUCTS

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Provide Micro-Sorb panels manufactured by Redbud Architectural Systems, Inc., 1021 N. Columbia Place, Tulsa, OK 74110, Ph. (918)300-4791, web: redbudasi.com

2.2 MATERIALS

- A. **Micro-Sorb Wall and Ceiling Panels for Interior Installation: Select**
Micro-Sorb acoustical panels as follows: Real wood veneer laminated to a fiberglass reinforced polymer or a painted surface applied to an MDF skin. Surface skin thickness shall not be less than 1.5mm (0.060"). The core of the panels shall be comprised of a Class-A Fire Rated PET Felt
- B. **Panel Edge Treatment:** Panels will be edge banded with the matching materials and finish, or as specified by the architect, to match or contrast with the panel face.
- C. **Reveal Options: Select:** Panels to be mounted per manufacturer's installation instructions for open reveal (1/8", 1/4") or 1/4" closed reveal with matching wood spline or per architect's specification.
- D. **Panel Weight (by thickness):** 3/4"=2.2 lbs./ft², 1" = 2.3 lbs./ft², 1.5"= 2.8 lbs./ft², 2" = 3.6 lbs./ft².
- E. **Panel Sizes: Select** Panels are available in custom sizes up to 60" x 120". (144" may be available in some species. Confirm with manufacturer.)

- F. **Panel thickness:** Select 3/4", 1", 1 1/2" or 2"
- G. **Flame Resistance:** Micro-Sorb Panels have a Class 1(A) rating based on ASTM E84 standard test method for surface burning characteristics in building materials. Depending on the use and the type of veneer selected, Micro-Sorb panels can be used in Class A environments (IBC Chapter 8 Section 803).
- H. **Perforations:** Panels will be furnished with perforated faces consisting of 0.5mm (0.02") diameter holes in an offset pattern. The perforations must be clean without rounded edges or grain pull out between perforations. **A minimum of 99.5% of the perforations must be acoustically functional, providing unobstructed passage into the core.** Perforations must maintain consistent diameter through the face material and backer with no tapering or roughness.
- I. **Acoustic Performance:** To generate the standing sound waves required for resistive absorption, each panel must have a solid acoustically reflective back surface that extends the panel's full length and width. Each panel must achieve a minimum NRC test value as stated **without any cavity space or back loading:** Select
- Micro-Sorb (3/4" thick) .70 NRC
 - Micro-Sorb (1" thick) .80 NRC
 - Micro-Sorb (1 1/2" thick) .90 NRC
 - Micro-Sorb (2" thick) .95 NRC
- J. **Panel Stability:** Linear contraction or expansion to not exceed 0.4% maximum variation in width or height per ASTM D1037.
- K. **Finish for Veneer Faced Panels:** Select
1. Species as selected by the architect.
 2. Cut: plain sliced, quartered/rift, or rotary.
 3. Matching veneer leaves: book match, slip match or random matching.
 4. Matching between panels: random (*required for random leaf match*), natural sequence, specified sequence, blueprint match or blueprint and endmatched.
 5. Finishes shall be applied in the shop: clear, stained, or painted.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Inspect installation area and conditions under which work is to be performed for compliance with all manufacturer's environmental requirements. All wet work in the installation area must be complete, cured and dry prior to installation. Do not proceed until all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Installation must be done by qualified carpenters with 2 years experience in the installation of architectural woodwork or acoustic systems. The firm must demonstrate successful experience installing materials of similar type and quality of those required for this project. The use of proper carpentry tools and techniques will be required for the installation.
- B. Comply with manufacturer's instructions and recommendations for hanging panels.
- C. Confirm all field dimensions are coordinated with shop drawings.

3.3 ADJUSTING AND CLEANING

- A. Clean soiled surfaces of panels per manufacturer's instructions.
- B. Remove and replace damaged or discolored materials not in compliance with manufacturer's tolerances.

END OF SECTION