

**SECTION 09 84 33  
SOUND-ABSORBING WALL UNITS**

SPEC WRITER NOTE: Delete between // // if not applicable to project. Also, delete any other item or paragraph not applicable in the section and renumber the paragraphs.

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This section specifies the requirements for fabric covered acoustical wall panels.

**1.2 RELATED WORK**

- A. //Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS: Sustainable Design Requirements. //
- B. Section 09 06 00, SCHEDULE FOR FINISHES: Color and location for hanging.

**1.3 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. // Sustainable Design Submittals, as described below:
1. // Postconsumer and preconsumer recycled content as specified in PART 2 - PRODUCTS.//
  2. // Volatile organic compounds per volume as specified in PART 2 - PRODUCTS.//
  3. // For composite wood products, documentation indicating product contains no added urea formaldehyde.// //
- C. // Samples: Fabric covering as specified in Section 09 06 00, SCHEDULE FOR FINISHES, size 457 mm (18 inches). Submit four (4) each, full width of mill run for each color specified.
- D. Manufacturer's Literature and Data: Complete instructions for installation of wall panels. Include fabric facing, panel edge, core material and acoustical data for each sound-absorbing wall unit.
- E. Certificate: Flame spread and smoke development index factors.

**1.4 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only.
- B. American Association of Textile Chemists and Colorists (AATCC):  
TM 16-04.....Test Method: Colorfastness to Light

C. ASTM International (ASTM):

- C423-17.....Sound Absorption and Sound Absorption  
Coefficients by the Reverberation Room Method
- D5034-09(2017).....Breaking Strength and Elongation of Textile  
Fabrics (Grab Test)
- E84-20.....Surface Burning Characteristics of Building  
Materials

D. Code of Federal Regulation (CFR):

- 40 CFR 59.....Determination of Volatile Matter Content, Water  
Content, Density Volume Solids, and Weight  
Solids of Surface Coating

E. Underwriter's Laboratory (UL):

- 723-10(R2013).....Test for Surface Burning Characteristics of  
Building Materials

**PART 2 - PRODUCTS**

**2.1 WALL COVERING PANELS**

SPEC WRITER NOTE: Acoustic panels and placement should be fully detailed and dimensioned on the drawings.

A. Width: 610 mm (2 feet) minimum unless shown otherwise on construction documents. End filler panels may vary in width as necessary to cover wall-to-wall installation.

B. Height:

- 1. For full height panels, field measure panels for custom fit flush to ceiling and tolerance at floor to within 3 mm (1/8-inch) at top of base.
- 2. As indicated on construction documents.

C. Thickness: As required to meet the indicated NRC range but not less than 25 mm (1 inch) nominal.

D. Fabric Covering:

- 1. // Seamless non-woven, embossed texture, needle punched 100 percent polyester, minimum 0.034 kg per linear meter (11 ounces per linear yard).
  - a. Tear strength is to be a minimum 110 N (25 pounds) machine direction and minimum 178 N (40 pounds) cross-machine direction.
  - b. Tensile strength is to be a minimum 220 N (50 pounds) machine direction and minimum 330 N (75 pounds) cross-machine direction in accordance with ASTM D5034. //

2. // Seamless plain-woven 2-ply 100 percent polyester, minimum 0.47 kg per linear meter (15 ounces per linear yard).
  - a. Tear strength is to be a minimum 129 N (29 pounds).
  - b. Tensile strength is to be 667 N (150 pounds) minimum in accordance with ASTM D5034.//
3. // Seamless perforated vinyl covering with fabric backing, minimum 0.62 kg per linear meter (20 ounces per linear yard) total weight.//
4. Provide fabric covering stretched free of wrinkles and then bonded to the edges and back or bonded directly to the panel face, edges, and back of panel a minimum distance standard with the manufacturer. Light fastness (fadeometer) is to be not less than 40 hours in accordance with AATCC TM 16.
- E. // Fabric Covering at Health Care Areas: In addition to that indicated above, provide fabric that is flame resistant, stain resistant, and antimicrobial. Fabric is to be cleanable with water or solvent based cleaning agents or diluted household bleach. //
- F. Fire rating for the complete composite system: Class A, 200 or less smoke density and flame spread less than 25 when tested in accordance with ASTM E84 or UL 723. Identify products with appropriate markings of testing agency.
- G. Substrate: Fiberglass or mineral fiber.
- H. Core Type: // Standard acoustical // // High impact acoustical // // Acoustical/tackable // // // core.
- I. Noise Reduction Coefficient (NRC) Range: // 0.50-0.60 // // 0.80-0.90 // in accordance with ASTM C423.
- J. Edge Construction: Manufacturer's standard // chemically hardened core with no frame // // extruded-aluminum or zinc-coated, rolled-steel frame // // extruded PVC frame //.
  1. // Recycled Content of metal products: Post-consumer content plus one-half of pre-consumer content not less than // 30 // // // percent.//
- K. Edge Detail: // Half bevel // // Bevel // // Radius // // Square // // Mitered // // // edge.
- L. Mounting acoustical panels are to be mounted by manufacturer's standard // concealed spline // // mechanical fasteners // // two-part metal "Z" clips // // magnetic fasteners // // hook and loop strip // // adhesive mounting //.

1. // Adhesive to have a VOC content of // 50 // // // gram/liter or less when calculated according to 40 CFR 59, (EPA Method 24).//

**PART 3 - EXECUTION**

**3.1 WALL PREPARATION**

- A. Walls are to be clean, smooth, oil free, contain no protrusions, and prepared in accordance with manufacturer's printed instructions.

**3.2 INSTALLATION**

- A. Comply with manufacturer's written instructions for installation of units using type of mounting devices indicated. Mount units securely to supporting substrate.
- B. Locate panels as shown on construction documents.
- C. Unless indicated otherwise, install units with vertical surfaces and edge plumb, top edges level and in alignment with other units. Install faces flush, and scribed to fit adjoining work accurately at borders and at penetrations. Variation from plumb and level installation are to be no more than 1.6 mm in 1200 mm (1/16 inch in 48 inches). Non-cumulative variation in joint width is to be no more than 1.6 mm (1/16 inch) from // hairline // //reveal line // in 1219 mm (48 inches) non-cumulative.

**3.3 CLEANING**

- A. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.
- B. Panels that are damaged, discolored, or improperly installed are to be removed and new panels provided as directed by Contracting Officer Representative (COR).

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