

SECTION 09830

ACOUSTICAL BARRIERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sound-deadening sidewall sheathing.
- B. Sound-deadening carpet underlayment.
- C. Soffits.
- D. Ceilings.
- E. Workshop floor covering.
- F. Temporary protective floor covering.
- G. _____.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry.
- B. Section 09110 - Non-Load-Bearing Wall Framing.
- C. Section 09250 - Gypsum Board.
- D. Section _____ - _____.

1.3 REFERENCES

- A. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM D 1037 - Test Methods of Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
- C. _____.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's catalog data, detail sheets, and specifications.
- C. Quality Assurance/Control Submittals:
 - 1. Manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Minimum 10 years experience in producing sound-deadening boards of the type specified herein.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original packages.
- B. Inspect the materials upon delivery to assure that specified products have been received.
- C. Report damaged material immediately to the delivering carrier and note such damage on the carrier's freight bill of lading.
- D. Store materials in a dry place, indoors, or on raised platform protected from weather damage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Homasote Company, P.O. Box 7240, West Trenton, NJ 08628-0240; ASD. Tel: (609) 883-3300, Fax: (609) 530-1584, Internet address: <http://www.homasote.com>; For local rep contact: Sweet's Buyline 1-800-892-1165 (#0878).
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.
- D. Provide all sound-deadening boards from a single manufacturer.

2.2 MATERIALS

- A. Sound-Deadening Boards: 440 Homasote(R); physical properties as follows:
 - 1. Thickness: 1/2 inch (13 mm).
 - 2. Density: 26-28 pcf (416-448 kg/cubic m).
 - 3. Tensile Strength: 450-700 psi (3,100-4,830 kPa).
 - 4. Hardness (Janka Ball): 230 lbs. (104 kg).
 - 5. Water Absorption by Volume; ASTM D 1037:

- a. 2 hour immersion: 5 percent maximum.
 - b. 24 hour immersion): 15 percent maximum.
- 6. Expansion, 50 to 90 percent relative humidity: 0.25 percent.
- 7. R-value: 1.2 (0.021).
- 8. Flame Spread: Class III (or C).
- 9. Noise Reduction Coefficient: 0.20.
- B. Super 440; physical properties as follows:
 - 1. Thickness: 5/8 inch (15.8 mm).
 - 2. Density: 26-28 pcf (416-448 kg/cubic m).
 - 3. Tensile Strength: 450-700 psi (3,100-4,830 kPa).
 - 4. Hardness (Janka Ball): 230 lbs. (104 kg).
 - 5. Water Absorption by Volume; ASTM D 1037:
 - a. 2 hour immersion: 5 percent maximum.
 - b. 24 hour immersion): 15 percent maximum.
 - 6. Expansion, 50 to 90 percent relative humidity: 0.25 percent.
 - 7. R-value: 1.33 (0.023).
 - 8. Flame Spread: Class III (or C).
 - 9. Noise Reduction Coefficient: 0.20.
 - 10. R-value, 1/2 inch (13 mm) thick: 1.2 (0.021).
 - 11. R-value, 5/8 inch (15.8 mm) thick: 1.33 (0.023).
 - 12. Flame Spread: Class III (or C).

2.3 ACCESSORIES

- A. Metal Frame Clips: Manufacturer's standard clip for securing panels to framing.
- B. Adhesive: APA approved panel adhesive.
- C. Nails: Length as required to penetrate wood framing 3/4 inch (19 mm) minimum.
- D. Nails: Finishing nails, length as required to penetrate wood framing 3/4 inch (19 mm) minimum.
- E. Screws:
 - 1. Wood Framing: Coarse thread drywall type wood screw, length as required to penetrate framing 3/4 inch (19 mm) minimum.
 - 2. Metal Framing: 22-25 gage, drywall type steel screw.
 - 3. Metal Framing: 20 gage or heavier, self-tapping drywall type steel screw.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates upon which work will be installed.
- B. Verify framing member spacing complies with manufacturer's requirements depending on substrates and installation methods.
- C. Verify environmental conditions are, and will continue to be, maintained in accordance with manufacturer's recommendations.
- D. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates or conditions.
- E. Starting work by installer is acceptance of substrate and environmental conditions.

3.2 PREPARATION

- A. Follow manufacturer's instructions by separating and allowing sound deadening boards to be exposed to environmental temperature and humidity conditions for not less than 24 hours before start of installation.
- B. Precondition 8 by 12 foot (2.438 by 3.658 m) panels by sprinkling with water and stacking wet side up overnight.

3.3 INSTALLATION

- A. Follow manufacturer's instructions for cutting and installation of sound deadening boards.
- B. Panel Applications:
 - 1. Apply 440 Homasote(R) panels directly to proper framing.
 - 2. Apply Super 440 panels directly to proper framing.
 - 3. Allow 3/16 inch (4.7 mm) space at panel side joints, 1/4 inch (6.3 mm) space at panel end joints.
 - 4. Nail panels from field center out to edges.
 - 5. Nail 10 to 12 inches (250 to 300 mm) on center at intermediate supports, 4 to 6 inches (100 to 150 mm) on center along panel edges. Nail 1/4 inch (6.3 mm) from edges.
 - 6. Use 6d nails for 440 Homasote(R).
 - 7. Use 8d nails for Super 440.
 - 8. Exterior Applications: Use weather resistant nails and apply wood or metal to battens over each joint.
- C. Sidewall Nailable Sheathing Applications:

1. For direct application of wood and composition shingles or siding, use ring drive nails of sufficient length to entirely penetrate board.
 2. Follow recommendations of shingle or siding manufacturer.
- D. Carpet Board Underlayment Applications (Wood Sub-Floors):
1. Apply 4 by 4 foot (1.219 by 1.219 m) boards for easy handling.
 2. Allow 3/16 inch (4.7 mm) space at panel joints; 3/8 inch (9.5 mm) space at walls and partitions.
 3. Use proper length underlayment ring drive nails to penetrate subflooring 1 inch (25 mm) minimum.
 4. Nail 8 to 10 inches (200 to 250 mm) on center at intermediate supports, 4 to 6 inches (100 to 150 mm) on center along panel edges. Nail 1/4 inch (6 mm) from edges.
- E. Carpet Underlayment Applications (Concrete Above-Grade):
1. Apply 4 by 4 foot (1.219 by 1.219 m) boards for easy handling.
 2. Allow 3/16 inch (4.7 mm) space at panel joints; 3/8 inch (9.5 mm) space at walls and partitions.
 3. Apply underlayment panels with APA approved construction adhesive, following directions on label.
 4. Nail each corner and center using concrete nails to penetrate concrete 1 inch (25 mm) minimum. Use additional nails as necessary to hold panel flat.
- F. Ceiling Constructions:
1. Apply 4 by 8 directly to conventional 2 by 8 or 2 by 10 joists, 16 inches (400 mm) on center.
 2. Nail with 5d adhesive coated nails, allowing 1/8 inch (3 mm) space at abutting edges.
 3. Install Type X gypsum boards to Sound-A-Sote(tm) using USG RC-1 Resilient Channels (or equal) spaced 24 inches (610 mm) on center. Use nails of sufficient length to penetrate Sound-A-Sote(tm) and enter joists 3/4 inch (19 mm) minimum.
 4. Tape and spackle gypsum and seal joints in conventional manner.

3.4 ADJUSTING AND CLEANING

- A. Follow manufacturer's instructions for repairing damaged panels.
- B. Replace panels that cannot be repaired to "as new" condition.

END OF SECTION