

SECTION 09 80 00

ACOUSTICAL TREATMENT

**** NOTE TO SPECIFIER **:** Homasote Company; floor and wall sound barrier.

This section is based on the products of Homasote Company, which is located at:

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Homasote 440Sound Barrier® is controlling sound through millions of square feet of floors, walls and ceilings. a special-density, structural board made from 100 percent environmental Homasote® cellulose fiber, a homogeneous composition manufactured with uniformly distributed protection against termites, rot and fungi and resistance to moisture. It also insulates, with twice the R-value of wood.

An internationally known environmental icon, Homasote Company is the oldest manufacturer of building products made from recycled materials in the U.S., and the only manufacturer of its kind in the Americas.

Each production day Homasote Company recycles (and keep out of landfills) up to 250 tons of post-consumer paper. Every production year our unique manufacturing process helps conserve nearly 1.4 million trees and eliminates up to 65 million pounds of solid waste that otherwise would go into landfills.

Homasote Company's environmental commitment extends beyond raw material recycling. It is the first manufacturer in the United States to recycle nearly all water used to manufacture its products. Process water, hundreds of thousands of gallons per day, is completely reused in a closed-loop system, a recycling feat recognized in 1956 by an award from the U.S. Army Corps of Engineers (precursor to the U.S. Environmental Protection Agency).

A leader in green building years before the first Earth Day was celebrated, Homasote Company naturally is a proud member of the U.S. Green Building Council. From sound control for floors and walls, to tackable interior panels, to roofing products, Homasote Company has a broad range of products with up to 98 percent post-consumer content that can help contribute towards LEED credits in several categories.

SECTION 09 80 00 - ACOUSTICAL TREATMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER **** Delete items below not required for project.

- A. Sound-deadening acoustical flooring systems.

- B. Sound-deadening acoustical wall systems

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

- A. Section 06 10 00 – Rough Carpentry: Installation and requirements for wood substrates and structure.
- B. Section 09 20 00 – Plaster and Gypsum Board: Installation and requirements for wall assemblies.
- C. Section 09 60 00 – Flooring: Installation and requirements for finish flooring.

1.3 REFERENCES

**** NOTE TO SPECIFIER **** Delete references from the list below that are not actually required by the text of the edited section.

- A. APA The Engineered Wood Association (APA): APA AFG-01 – Specification for field gluing subfloors.
- B. American Society for Testing and Materials (ASTM):
 1. ASTM C 209 - Test Methods for Cellulosic Fiber Insulating Board.
 2. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 3. ASTM D 1037 - Test Methods of Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
 4. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10 years experience in producing sound-deadening boards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Inspect the materials upon delivery to assure that specified products have been received. Report damaged material immediately to the delivering carrier and note such damage on the carrier's freight bill of lading.

- C. Store materials in a dry place, indoors, or on raised platform protected from weather damage.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Acclimatize panels to existing moisture conditions and for not less than 24 hours before installation. Comply with manufacturer's recommendations for acclimatization.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Homasote Company; 932 Lower Ferry Road, West Trenton, NJ 08628. ASD. Tel: (800) 257-9491. Tel: (609) 883-3300. Fax: (609) 883-3497. Email: sales@homasote.com www.homasote.com

**** NOTE TO SPECIFIER **** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

**** NOTE TO SPECIFIER **** Consult manufacturer for specific recommendations of tested assembly constructions, STC ratings, and IIC ratings.

2.2 MATERIALS

- A. Sound-Deadening Panels: Molded, recycled post-consumer paper, cellulose fiber structural panel; 440 SoundBarrier, Homasote Company.

**** NOTE TO SPECIFIER **** Consult manufacturer for specific recommendations of tested assembly constructions, STC ratings, and IIC ratings. Delete thicknesses not required.

1. Thickness: 1/2 inch (13 mm).
2. Thickness: 5/8 inch (16 mm).
3. Thickness: 3/4 inch (19 mm).
4. Density: 26-28 pcf (416-448 kg/cu. m) tested in accordance with ASTM C 209.
5. Tensile Strength: When tested in accordance with ASTM C 209:
 - a. Parallel: 450-700 psi (3,100-4,830 kPa).
 - b. Transverse: 750-1000 psi (5,1171-6,894 kPa).
6. Hardness (Janka Ball): 230 lbs (104 kg) tested in accordance with ASTM D 1037.
7. Water Absorption by Volume: When tested in accordance with ASTM D 1037:
 - a. 2 hour immersion: 5 percent maximum.
 - b. 24 hour immersion: 15 percent maximum.
8. Expansion: 50 to 90 percent relative humidity, 0.25 percent in accordance with ASTM C 209.
9. Thermal Resistance: When tested in accordance with ASTM C 209 per ASTM C 518:

**** NOTE TO SPECIFIER **** Consult manufacturer for specific recommendations of tested assembly constructions for required R-values. Delete thicknesses not required.

- a. R-value: 1.2 for 1/2 inch (13 mm) thick board.
- b. R-value: 1.33 for 5/8 inch (16 mm) thick board.
- c. R-value: 1.4 for 3/4 inch (19 mm) thick board.
10. Flame Spread: 76 to 200 tested in accordance with ASTM E 84, Class III or C.

2.3 ACCESSORIES

**** NOTE TO SPECIFIER **** Installation accessories are dependent on substrates and installation methods as recommended by the manufacturer; select from the following paragraphs accordingly.

- A. Adhesive: APA AFG-01 approved sub-floor adhesive.
- B. Floor Panel Fasteners:
 1. Nails, Wood Framing: Annular thread type of length required to penetrate not less than 3/4 inch (19 mm) into subfloor.
 2. Screws: Coarse thread drywall type wood screw of length required to penetrate not less than 3/4 inch (19 mm) into sub-floor.
- C. Wall Panel Fasteners:
 1. Nails, Wood Framing: Length required to penetrate wood framing 3/4 inch (19 mm) minimum.
 2. Screws:
 - a. General: 20 gage or heavier, self-tapping drywall type steel screw.
 - b. Wood Framing: Coarse thread drywall type wood screw, length as required to penetrate framing 3/4 inch (19 mm) minimum.
 - c. Metal Framing: 22-25 gage, drywall type steel screw.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Verify framing member spacing complies with manufacturer's requirements for substrates and installation methods

3.2 PREPARATION

- A. Prepare surfaces in accordance with manufacturer's recommendations.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install only clean dry panels. Do not install wet panels.
- C. Floor Panel Installation: Space panel joints 3/16 inch (5 mm) apart; 3/8 inch (10 mm) space at walls and partitions.
- D. Wall Panel Installation: Space panel joints 1/8 inch (3 mm) apart; 1/4 inch (6 mm) space at floors, ceilings, and window and door frames. Install gypsum wallboard or

other wall finish panels so that finish panel joints are staggered and do not coincide with sound barrier panel joints. Install in accordance with finish panel manufacturer's installation recommendations.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair, or replace damaged products before Substantial Completion.

3.5 CLEANING

- A. Comply with manufacturer's recommendations for repairing damaged panels.
- B. Replace panels that cannot be repaired.

END OF SECTION

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