

## 440 SOUND BARRIER® and N.C.F.R.® Homasote®

## W Wall Applications

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### Packaging, Storage and Protection

*All Homasote products having a maximum 4' width are packaged in plastic covered units. However, all materials should be stored above grade on wooden pallets and covered by waterproof tarpaulins. Packaging material is not intended for exterior job site protection.*

### Interior Applications

**General Requirements:** Temperature and humidity conditions closely approximating those which will exist when building is occupied shall be maintained before, during, and after the application of panels. **Installation shall not be made when building is excessively dry, cold, hot or damp.** All panels shall be removed from plastic covered units and separated not less than 24 hours prior to installation to allow material to acclimate.

### Applications as a Wall Panel

440 SoundBarrier® panels should be applied vertically to the framing with blocking or plates at top and bottom of panel. **All edges of panel must fall on framing at all times. Framing for 1/2"-thick panels must not exceed 16" o.c. Framing for 5/8"-and 3/4"-thick panels must not exceed 24" o.c. During installation, all panels must be fastened leaving a 1/8" expansion gap between sheets and 1/4" expansion gaps at floor, ceiling, and around window and door frames, etc. Do not fill or tape panel joints. If left exposed 440 SoundBarrier may be painted with a quality latex based primer and finish paint applied by brush and/or roller. DO NOT SPRAY PANELS.**

## 1) Installation for use as a Sound Control Panel

(behind gypsum wallboard or other paneling)

To reduce sound intensity, attention must be given to wall openings for conduits, pipes, ducts, electrical junction boxes and any other devices. Avoid back-to-back coincidence of openings on opposite sides of a wall. When the purpose of the openings has been completed, open spaces must be packed with acoustical insulation, or otherwise caulked, and sealed with a good grade acoustical sealant to assure an airtight closure.

Doorstops should be gasketed and dropseals installed at door bottoms. **Do not caulk between 440 SoundBarrier® panels.** This space allows for the natural expansion and contraction of the 440 SoundBarrier panels. 440 SoundBarrier panels must be installed vertically. After application of gypsum wallboard, the entire floor-ceiling wall perimeter must be caulked with acoustical sealant.

### 1-A) To Wood or Metal Framing

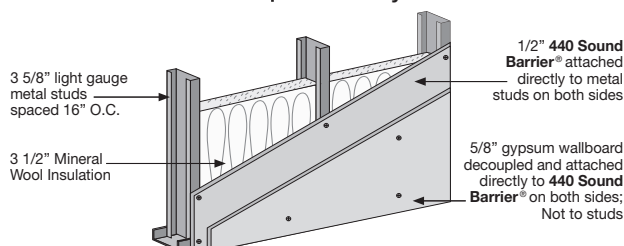
- 1) Apply a 3/8" bead of APA-approved paneling adhesive to studs in accordance with the adhesive manufacturer's recommendations. A double bead of adhesive is necessary on studs where adjoining panels fall.
- 2) Apply 440 SoundBarrier panels vertically to adhesive and framing, using hand pressure where adhesive is located to insure positive contact. Allow for expansion gaps as stated at the bottom of page 1. Screw 12" o.c. along edges and 24" o.c. along all intermediate framing. Screws should be of sufficient length to penetrate 3/4" into framing. Hold screws 3/8" back from panel edges.
- 3) Install gypsum wallboard or other paneling over 440 SoundBarrier panels so panel joints are staggered and do not coincide. Follow gypsum wallboard manufacturer's installation recommendations.

### 1-B) Decoupled Wall System – Reduced Sound Transmission on Wood or Steel Studs

- 1) Apply a 3/8" bead of APA-approved paneling adhesive to studs in accordance with the adhesive manufacturer's recommendations. A double bead of adhesive is necessary on studs where adjoining panels fall.
- 2) Apply 440 SoundBarrier panels vertically (Page 2-Section 2-A) to adhesive and framing, using hand pressure where adhesive is located to insure positive contact. Allow for expansion gaps as stated at the bottom of page 1. Screw 12" o.c. along edges and 24" o.c. along all intermediate framing. Screws should be of sufficient length to penetrate 3/4" into framing. Hold screws 3/8" back from panel edges.
- 3) Stagger gypsum wallboard so edges do not fall onto studs. Using rock-to-rock screws (#10 x 1-1/2" bugle head screws), secure gypsum wallboard directly to 440 SoundBarrier panels every 8" o.c. around panel edges and 12" o.c. on intermediate sections of panel. Do not fasten the gypsum wallboard into studs.

\*Resilient channels or furring strips may also be installed over 440 SoundBarrier panels provided that the channels/strips are screwed through the 440 SoundBarrier into framing as per manufacturer's recommendations.

### STC 51 - Metal Stud Wall Decoupled Wall System

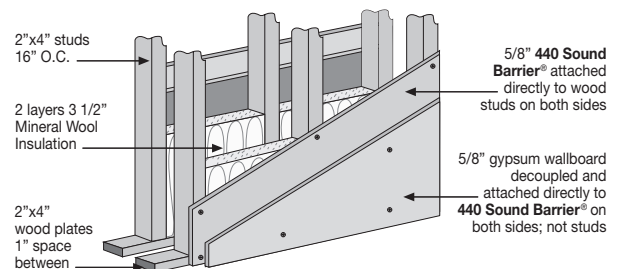


### 1-C) Double Wall Construction - STC 66

(Using 5/8" 440 SoundBarrier)

- 1) Construct dual frame 2" x 4" placed 16" o.c.
- 2) Maintain a 1" dead air space separation between wall framing.
- 3) Install 3-1/2" high fiber count sound bat insulation in both sides of wall.
- 4) 5/8" 440 SoundBarrier panels are to be applied directly to wall studs, each side, with recommended expansion gaps as stated at the bottom of page 1. Apply 440 SoundBarrier following instructions in section 2 of "1-A) To Wood or Metal Framing."
- 5) 5/8" fire-rated gypsum wallboard is to be applied directly to 440 SoundBarrier. Use 440 SoundBarrier as a base for the gypsum wallboard. Using rock-to-rock screws (#10 x 1-1/2" bugle head screws), secure gypsum wallboard directly to 440 SoundBarrier panels every 8" o.c. around panel edges and 12" o.c. on intermediate sections of panel.

### STC 66 - Double Wood Stud Partition Decoupled Wall System



### 1-D) To Masonry Walls

- 1) As per APA recommendations, install wood furring strips, not exceeding 16" o.c. for 1/2" 440 SoundBarrier panels (furring strips not to exceed 24" o.c. for 5/8" and 3/4" 440 SoundBarrier panels).
- 2) Apply 440 SoundBarrier panels following instructions in section 2 of "1-A) To Wood or Metal Framing."
- 3) Install gypsum wallboard or other paneling over 440 SoundBarrier panels so panel joints are staggered and do not coincide. Follow gypsum wallboard manufacturer's installation recommendations.

## 2) Installation for use as a Fabric-Wrapped Panel

440 SoundBarrier panels have different textures on each side. One is a smoother linen texture and the other a rougher screen texture. Select the side to apply fabric that best suits your needs. Also notice that, due to the nature of the product, the surfaces of 440 SoundBarrier panels are not perfectly flat; determine the suitability of the panels as a substrate for your fabric prior to fabric application. (Apply fabric to a small sample, if necessary, to help make that determination). Lightly sanding the surface of the 440 SoundBarrier panels will help eliminate textures and inconsistencies. *Homasote 440 PINnacle™ and N.C.F.R. PINnacle™ are fine-sanded panels also used as a substrate for fabric wrapping. Homasote also offers factory-wrapped interior panels. Call Homasote Company for details.*

### 2-A) Fabric-Wrapped 440 SoundBarrier To Wood or Metal Framing

- 1) Apply fabric to 440 SoundBarrier panels using adhesive recommended by fabric manufacturer for application to wood fiberboard. The fabric adhesive must be applied to the face of the panel in the proper amount to prevent bleed through. Wrap fabric and glue around edges and

continue for 2" on backside of board. **Homasote is not responsible for the appearance or performance of job-site fabric-wrapped panels.**

- Lay panels flat for the necessary time to allow adhesive to fully set.
- Apply a 3/8" bead of sub-floor adhesive meeting APA AFG-01 specification to intermediate studs in accordance with the adhesive manufacturer's recommendation.
- Attach metal frame clips to long edges of 440 SoundBarrier panels every 12" o.c. See complete details in "2-D) Complete Instructions For Metal Frame Clips."
- Apply fabric-wrapped 440 SoundBarrier panels to adhesive and framing, with recommended expansion gaps as stated at the bottom of page 1, applying hand pressure from the center of panel out to the ceiling and floor where adhesive is located to insure positive contact. Screw panels 6" o.c. to plates or blocking at floor and ceiling. Screws should be sufficient length to penetrate 3/4" into framing. Hold screws 3/8" back from edge of panels. Screw clips to framing and brace panels for a minimum of 24 hours for adhesive to set.

## 2-B) Fabric-Wrapped 440 SoundBarrier To Masonry Walls

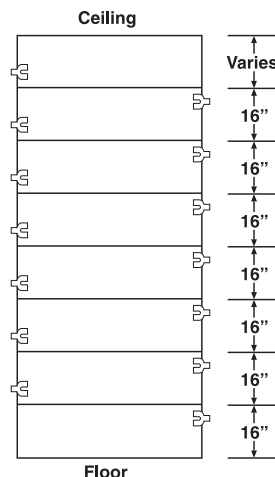
- As per APA recommendations, install wood furring strips to masonry walls, not exceeding 16" o.c. for 1/2" 440 SoundBarrier panels and 24" o.c. for 5/8" and 3/4" 440 SoundBarrier panels.
- Follow instructions "2-A) Fabric-Wrapped 440 SoundBarrier To Wood or Metal Framing" for applying fabric wrapped 440 SoundBarrier panels.

## 2-C) Fabric-Wrapped 440 SoundBarrier To Finished Walls

Apply wall panels following instructions in "2-A) Fabric-Wrapped 440 SoundBarrier To Wood or Metal Framing". Apply adhesive to back of 440 SoundBarrier panels in 3/8" beads 16" o.c. and at perimeter, holding adhesive back 3/4" from edge. 440 SoundBarrier panels must be aligned such that edges fall on framing and must be fastened into wall framing.

## 2-D) Complete Instructions For Metal Frame Clips\*

- Lay out back of panel by drawing lines at 16" intervals.
- Locate clips above the line on one side and below on the opposite side. (A staggered clip layout creates a tongue-and-groove panel joint). See diagram (right).
- Seat the clips around the perimeter of the board as shown in the diagram. Do not damage panel edge. (Use 7 clips per side for a 4' x 8' panels).
- Apply a 3/8" bead of sub-floor adhesive meeting APA AFG-01 specification to intermediate studs in accordance with the adhesive manufacturer's recommendation. A double bead of adhesive is necessary on studs where adjoining panels fall.
- Position panels (with clips installed) on any wood or metal framing. Tighten the joint with a floor leverage tool. Screw or nail panels to floor and ceiling plates as per 440 SoundBarrier installation instructions. Use low-profile screws to secure one series of clips to wall stud. Stagger joints on opposite sides of the wall when possible.
- The clips on the adjacent panel simply slide behind the fixed panel.



\*Source: Cymax Systems, Inc.

## Exterior Applications

**General Requirements:** When fastening panels, corrosion-resistant ring shank nails or screws must be used. 440 SoundBarrier 440 must be allowed a minimum 24-hour acclimation period prior to installation by storing the product in an environment similar in which it is to be installed.

## Applications as a Sidewall Panel

**Provide support for all edges and throughout the intermediate part of the panel. Framing not to exceed 16" o.c. for 1/2"-thick panels and 24" o.c. for 5/8"-and 3/4"-thick panels.**

Panels should be applied vertically to the framing with blocking or plates at the top and bottom of the panel. Otherwise, install cross blocking at horizontal joints to provide a solid fastening base. Leave 3/16" space at all panel side joints and leave 1/4" space at all panel end joints. Panels must be kept a minimum of 8".

## 3) Installation for use as Exterior Vertical Sheathing Only

440 SoundBarrier may be left exposed to weather during construction in a vertically installed application. House wrap or felt paper may be applied over the 440 SoundBarrier using staples. Apply finished siding following siding manufacturers installation instructions. See Note\* below.

## 3-A) To Wood or Metal Framing (applied to corners)

- Apply panels directly to proper framing, not to exceed 16" o.c. for 1/2" thick panels and 24" o.c. for 5/8" thick panels. Allow for expansion gaps of 3/16" between the panels and leave 1/4" at all panel end-joints.
- Keep fasteners back 7/16" from all edges. Fasten panel 3" o. c. along 440 SoundBarrier panel edges and 4" o.c. at intermediate framing.
- Fasten from center of panel out to edges. Use corrosion resistant fasteners to penetrate at least 1-1/2" into framing.

## 3-B) To Wood or Metal Framing (applied to field)

- Apply panels directly to proper framing, not to exceed 16" o.c. for 1/2" thick panels and 24" o.c. for 5/8" thick panels. Allow for expansion gaps of 3/16" between the panels and leave 1/4" at all panel end-joints.
- Keep fasteners back 7/16" from all edges. Fasten panel 4" to 6" o. c. along 440 SoundBarrier panel edges and 10" to 12" o.c. at intermediate framing.
- Fasten from center of panel out to edges. Use corrosion-resistant fasteners to penetrate at least 1" into framing.

\* NOTE: (1) Wood shingles, shakes, aluminum and vinyl sidings may be nailed directly to sheathing using corrosion-resistant ring shank nails long enough to penetrate 3/4" into 440 SoundBarrier. When installing stucco, brick or stone as finished exterior, apply felt paper to the 440 SoundBarrier, then nail wire mesh using corrosion-resistant ringshank nails long enough to penetrate through the 440 SoundBarrier panel and into the framing behind. (2) 440 SoundBarrier should be allowed a minimum 24-hour acclimation period prior to installation by storing the product in a similar environment in which it is to be installed. (3) Insulation that is sprayed or wet-applied to wall cavities must not be used with 440 SoundBarrier.

# 440 SoundBarrier® SPECIFICATIONS

## PART 1 GENERAL

### 1.1 Section Includes

- A. Sound-deadening acoustical wall systems.

### 1.2 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. UL Category BXUV: Mineral & Fiber Boards UL 1-Hour Fire Resistance assemblies: V448, W448

### 1.3 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.

### 1.4 Quality Assurance

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

### 1.5 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, 932 Lower Ferry Road, West Trenton, N.J. 08628. Telephone: 800-257-9491 or 609-883-3300, Sales Department, Ext. 1500, Technical Support, Ext. 1332, Fax 609-883-3497. Web site: [www.homasote.com](http://www.homasote.com). For a local Homasote Company sales rep call the Sales Department, Ext. 1500.
- 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: Homasote 440 SoundBarrier®; physical properties as follows:
  - 1. Thickness: 1/2 inch (13mm), 5/8 inch (16mm), 3/4 inch (19mm).
  - 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 inch 1.2 (0.021), 5/8 inch 1.33, 3/4 inch 1.4.
  - 8. Flame spread: Class III (or C).
  - 9. Noise reduction coefficient: 0.20.

### 2.3 Accessories

- A. Adhesive: APA AFG-01 approved.
- B. Ringshank nails: length as required to penetrate a minimum of 3/4 inch (19mm) into sub-floor.
- C. Screws:
  - 1. Coarse thread drywall type wood screw, length as required to penetrate 3/4 inch (19 mm) into sub-floor.

## PART 3 EXECUTION

### 3.1 Examination

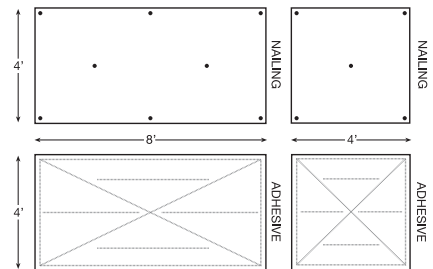
- A. Examine substrates upon which work will be installed.
- B. Verify framing member spacing complies with manufacturer's requirements depending on substrates and installation methods.
- C. Verify environmental conditions are, and will continue to be, maintained in accordance with manufacturer's recommendations.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

### 3.2 Preparation

- A. Follow manufacturer's instructions by separating and allowing Homasote 440 SoundBarrier® to be exposed to environmental temperature and humidity conditions for not less than 24 hours before start of installation.
- B. 440 SoundBarrier® panels must be installed in a clean, dry condition. DO NOT INSTALL WET PANELS. Vertical applications only. Not to be used as a roof sheathing. Panels must be kept a minimum of 8" above grade. 440 SoundBarrier® panels must be thoroughly dry prior to closing in the structure.

### 3.3 Installation

- A. Follow manufacturer's instructions for cutting and installation of Homasote 440 SoundBarrier®.
- B. Over walls: use 440 Sound Barrier®:
  - 1. Using all approved APA sub-floor adhesive meeting APA-AFG-01 specifications, apply a 3/8 inch bead of adhesive. Holding back 3/4 inch from panel edges and in an "X" pattern within the field as shown in the "nailing and adhesive pattern."



- 2. Allow 3/16 inch (4.7mm) space at panel joints, and 3/8 inch (9.5mm) space along walls and partitions.
- 3. Use proper length ring shank nails or screws to penetrate framing material 1 inch minimum (25mm). Follow nailing pattern in diagram.
- 4. If omitting adhesive, panels must be nailed or screwed 6 inch o.c. along panel edges and 10 inch o.c. throughout the field of the board.
- 5. Hold back nails or screws 3/8 inch (9.5mm) from panel edges.

### 3.4 Adjusting and Cleaning

- A. Replace panels that cannot be repaired.

To make sure you have the most current installation instructions visit <http://www.Homasote.com/installation> to see if newer instructions are online. If online is newer, print out and use the Internet version. These instructions were printed December 21, 2005.