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4-Way® Floor Deck Architectural Specifications CSI Sections 06, 07, 09

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

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

932 Lower Ferry Road

West Trenton, NJ 08628

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Homasote 440 SoundBarrier® 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 100 tons of recycled 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 recycled content that can help contribute towards LEED credits in several categories.

SECTION 09 80 00 - ACOUSTICAL TREATMENT

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Section 06 00 00 Wood, Plastics and Composites.
    2. Section 07 00 00 Thermal and Moisture Protection.
    3. Section 09 00 00 Finishes
  1. RELATED SECTIONS

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

* + 1. Section 06 10 00 – Rough Carpentry.
    2. Section 06 70 00 – Structural Composites.
    3. Section 07 21 13 – Board Insulation.
    4. Section 09 60 00 – Flooring.
    5. Section 09 80 00 – Acoustic Treatment.
  1. REFERENCES

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

* + 1. APA The Engineered Wood Association (APA): APA AFG-01 – Specification for construction adhesives.
    2. 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. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. 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.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 10 years experience in producing structural, noise deadening sub-flooring.
     2. UL listed, R16381.
     3. Forest Stewardship Council certification: FSC CoC Cert. no.5682.
  3. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
     2. 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.
     3. Store materials in a dry place, indoors, on raised platform protected from weather damage.
  4. PROJECT CONDITIONS
     1. Verify that mounting surfaces are clean, parallel, level and dry prior to installation.
     2. Squeegee off excess water. Do not allow water to pond on deck for long periods of time.
     3. Install blocking where partition walls fall between joists for additional support.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Homasote Company; 932 Lower Ferry Road, West Trenton, NJ 08628. Tel: (800) 257-9491. Tel: (609) 883-3300. Fax: (609) 883-3497. Email: sales@homasote.com Website: www.homasote.com
      2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

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

* + 1. Substitutions: Not permitted.
    2. Provide all floor deck panels from a single manufacturer.

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

* 1. MATERIALS
     1. 4-Way Floor Deck: Class C fire-rated. Made up of multiple plies of Homasote 440 structural panel. It is made in a 4’ x 8’ panel size with the tongue and groove down the 8’ side; the 4’ ends are square edged. Physical properties as follows:
        1. Thickness: 1 11/32 inch (34 mm).
        2. Thickness: 1 3/4 inch (44 mm).
        3. Density: 26-28 pcf (416-448 kg/cu. m) tested in accordance with ASTM C 209.
        4. Tensile Strength: When tested in accordance with ASTM C 209:
           1. Parallel: 450-700 psi (3,100-4,830 kPa).
           2. Transverse: 750-1000 psi (5.1171-6.894 kPa).
        5. Hardness (Janka Ball): 230 lbs (104 kg) tested in accordance with ASTM D 1037.
        6. Water Absorption by Volume: When tested in accordance with ASTM C 209:
           1. 2 hour immersion: 7 percent maximum.
        7. Expansion: 50 to 90 percent relative humidity, 0.25 percent in accordance with ASTM C 209.
        8. 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.

* + - * 1. R-value: 3.27 for 1 11/32 inch (34 mm) thick board.
        2. R-value: 4.46 for 1 3/4 inch (44 mm) thick board.
        3. K-value: .512 Btu-in/ (h ft² °F).
      1. Noise reduction coefficient (NRC): 0.20
      2. Flame Spread: 76 to 200 tested in accordance with ASTM E 84, Class III or C.
    1. Sizes, Weights, R-Values and Joist Spacing:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Thickness | Panel Sizes | Weight  (Lbs./sq.ft.) | R- Value | Joist Spacing  (Max) |
| 1 11/32” | 4’ x 8’  47 1/8” x 95 7/8” | 3.0 | 3.27 | 16” |
| 1 ¾” | 4’ x 8’  47 1/8” x 95 7/8” | 4.1 | 4.46 | 24” |

All sizes are nominal.

* + 1. Loading Information:

4-Way Floor Deck adequately supports uniform live loads up to 100 Lbs./square foot based on a maximum deflection of 1/360 of the span.

* 1. ACCESSORIES

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

* + 1. Adhesive: APA AFG-01 specification sub-floor adhesive.
    2. Wood floor joist fasteners:
       1. Nails: 20d annular threaded (ring shank) nails with 3/8 inch heads.
       2. Screws: Flat head coarse thread wood screw of length required to penetrate not less than 1 inch (25 mm) into wood joist.

1. EXECUTION
   1. EXAMINATION
      1. Examine the framing upon which the decking will be installed.
      2. Verify framing member spacing complies with manufacturer’s requirements.
      3. If framing installation is the responsibility of another installer, notify Architect of unsatisfactory installation before proceeding.
      4. Verify that framing is clean, parallel, level and dry prior to installation.
      5. Starting work by installer is acceptance of framing and environmental conditions.
   2. PREPARATION
      1. Follow manufacturer’s instructions regarding adhesives, fastening schedules, additional framing and installation procedures.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Install only clean dry panels. Do not install wet panels.
      3. Space panel joints at butt ends 1/8 inch (4 mm) apart. Stagger joints.
      4. If partition wall parallels floor joists, adequate support framing must be installed under partition plate.
      5. In projects using the “post and beam” construction technique (common in straw-bale home construction), provisions must be made for the weight bearing columns to rest on bulwarks, not the 4-Way deck to prevent point load compression in the deck.
   4. PROTECTION
      1. Protect installed products until completion of project.
      2. Periodically remove excess dried mud, scrap, dropped fasteners, sawdust and other debris from surface during the construction process.
   5. CLEANING
      1. At the completion of major interior trades, the deck shall be cleaned of debris, dust, etc. in preparation of the installation of the final finished floor system.