

4-Way® Floor Deck Architectural Specifications

CSI Sections 06, 07, 09

PART 1 GENERAL

1.1 Section Includes

- A. Section 06 00 00 Wood, Plastics and Composites.
- B. Section 07 00 00 Thermal and Moisture Protection.
- C. Section 09 00 00 Finishes

1.2 Related Sections

- A. Section 06 10 00 – Rough Carpentry.
- B. Section 06 70 00 – Structural Composites.
- C. Section 07 21 13 – Board Insulation.
- D. Section 09 60 00 – Flooring.
- E. Section 09 80 00 – Acoustic Treatment.

1.3 References

- A. APA The Engineered Wood Association (APA): APA AFG-01 – Specification for construction adhesives.
- 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.
 - 5. ASTM D 2164 - Methods of Testing Structural Insulating Roof Deck.

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 structural, noise deadening sub-flooring.
- B. UL listed, R16381.
- C. Forest Stewardship Council certification: FSC CoC Cert. no.5682.

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. Verify that mounting surfaces are clean, parallel, level and dry prior to installation.
- B. Squeegee off excess water. Do not allow water to pond on deck for long periods of time.
- C. Install blocking where partition walls fall between joists for additional support.

PART 2 PRODUCTS

2.1 Manufacturers

- A. 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
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
- C. Substitutions: Not permitted.
- D. Provide all floor deck panels from a single manufacturer.

2.2 Materials

- A. 4-Way Floor Deck: Class C fire-rated. Made up of multiple plies of Homasote 440 structural panel. It is made in a 2' x 8' panel size with the tongue and groove down the 8' side; the 2' 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:
 - a. Parallel: 450-700 psi (3,100-4,830 kPa).

b. 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 D 1037:
 - a. 2 hour immersion: 5 percent maximum.
 - b. 24 hour immersion: 15 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:
 - a. R-value: 3.27 for 1-11/32 inch (34 mm) thick board.
 - b. R-value: 4.46 for 1-3/4 inch (44 mm) thick board.
 - c. K-value: .512 Btu-in/ (h ft² °F).
- 9. Noise reduction coefficient (NRC): 0.20.
- 10. Flame Spread: 76 to 200 tested in accordance with ASTM E 84, Class III or C.

B. Sizes, Weights, R-Values and Joist Spacing:

Thickness	Panel Sizes	Weight (Lbs./sq.ft.)	R- Value	Joist Spacing (Max)
1-11/32"	2' x 8' 23-1/8" x 95-7/8"	3.0	3.27	16"
1-3/4"	2' x 8' 23-1/8" x 95-7/8"	4.1	4.46	24"

C. 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.

2.3 Accessories

- A. Adhesive: APA AFG-01 specification sub-floor adhesive.
- B. 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.

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PART 3 EXECUTION

3.1 Examination

- A. Examine the framing upon which the decking will be installed.
- B. Verify framing member spacing complies with manufacturer's requirements.
- C. If framing installation is the responsibility of another installer, notify Architect of unsatisfactory installation before proceeding.
- D. Verify that framing is clean, parallel, level and dry prior to installation.
- E. Starting work by installer is acceptance of framing and environmental conditions.

3.2 Preparation

- A. Follow manufacturer's instructions regarding adhesives, fastening schedules, additional framing and installation procedures.

3.3 Installation

- A. Install in accordance with manufacturer's instructions.
- B. Install only clean dry panels. Do not install wet panels.
- C. Space panel joints at butt ends 1/8 inch (4 mm) apart. Stagger joints.
- D. If partition wall parallels floor joists, adequate support framing must be installed under partition plate.
- E. 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.

3.4 Protection

- A. Protect installed products until completion of project.
- B. Periodically remove excess dried mud, scrap, dropped fasteners, sawdust and other debris from surface during the construction process.

3.5 Cleaning

- A. 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.