



RSP Industries, Inc: SAPboard Subflooring Guide Specification

RSP Industries is pleased to introduce the first viable alternative to cementitious underlayments in wood frame construction. SAPboard floor/ceiling assemblies provide sound dampening abilities while eliminating the disruptive use of wet cementitious underlayments.

Sound Transfer: The prevention of noise transfer between living spaces has been a challenge for architects and builders for decades. The innovative design of SAPboard allows sound barriers to be incorporated into the structure as the building is framed, providing continuity of installation without the need to demobilize trades while pouring and curing gypcrete. With sound absorption rates as high as 58 IIC and 62 STC, the sound dampening abilities of SAPboard are second to none.

Fire Resistance: SAPboard is a component of several commonly used floor/ceiling fire-resistance rated assembly designs; refer to ANSI/UL 263 and CAN/ULC-S101 for certifications.

Reduce Risk of Mold: Because SAPboard eliminates the introduction of wet cementitious underlayments into an otherwise dry environment, the risk of mold development during the construction process is substantially reduced or eliminated.

Quality: SAPboard features a robust design with exceptional strength and stiffness as well as easy machining and adhesion, allowing for a hassle-free installation. Additionally, the exceptional dimensional stability resists warping, twisting and bowing.

Environmentally Friendly: Manufactured with yellow pine from renewable sources and recycled rubber, SAPboard has a near zero carbon footprint. The water-based adhesive system is resistant to moisture and creates a strong, stable product that is free from solvents and other harmful emissions. SAPboard may contribute to credit points in green certification programs including:

Earth Craft House

LEED for Homes; LEED for New Construction

ENERGY STAR

NAHB Model Green Home Building Guidelines

National Green Building Standard

Ease of Installation: SAPboard is available in 2x8 and 4x8 sheets; custom sizes are available. They are installed in the same manner as a traditional subfloor, saving time and reduces the schedule duration by as much as 3 weeks on a typical 4 story, 80,000 sq ft multifamily building and more on larger projects.

Cost Savings: In addition to competitive installation costs, SAPboard offers savings resulting from schedule improvements, reduced general conditions and floor prep time for finish floor contractors.

We recommend you consult with your RSPanel construction technical representative at: RSP Industries, Inc., Twinsburg, OH 44087; (440) 823-4502; www.rspanelsinc.com; info@rspanels.com.

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SECTION 061600 - SHEATHING (SAPboard)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes
1. Combination subflooring/underlayment.

1.2 REFERENCES

Specifier: We have included this References Article in this short form specification for specifier information. If retaining this Article in your Project specification, edit it to correspond to references that remain in your edited Section text.

- A. American Society of Mechanical Engineers (ASME): www.asme.org
1. ASME B18.6.1 - Wood Screws (Inch Series).
- B. APA The Engineered Wood Association (APA): www.apawood.org/
1. APA Form No. 30 - Engineered Wood Construction Guide.
 2. APA AFG-01 – Adhesives for Field-Gluing Plywood to Wood Framing.
- C. ASTM International (ASTM): www.astm.org
1. ASTM D 3498 - Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems.
 2. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 3. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 4. ASTM E 492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
- D. US Department of Commerce (DOC): <http://gsi.nist.gov/global/index.cfm/L1-5/I2-44/A-355>
1. DoC PS 2 - Performance Standard for Wood-Based Structural Panels.
- E. International Code Council (ICC): www.iccsafe.org
1. ICC IBC - International Building Code.
 2. ICC IRC - International Residential Code for One- and Two-Family Dwellings.
- F. ICC Evaluation Service, Inc. (ICC-ES): www.icc-es.org
1. ICC-ES AC182 – Acceptance Criteria for Wood Structural Panel Products.
 2. ICC-ES ESR-1785 – Evaluation Report for Engineered Panels.
 3. ICC-ES VAR-1012 – Verification of Attributes Environmental Report.
- G. Sustainable Forestry Initiative (SFI): www.sfiprogram.org/

1. SFI 2010 - 2014 Standard.

H. Underwriters Laboratories, Inc. (UL): www.ul.com:

1. UL 263 - Standard for Fire Tests of Building Construction and Materials.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of sheathing product specified.

Specifier: If required, retain "Sustainable Design Submittals" Paragraph below and edit to correspond to Project requirements.

B. Sustainable Design Submittals:

1. Chain-of-Custody Certificates: For certified wood products. Include statement of costs.
2. Chain-of-Custody Qualification Data: For manufacturer and vendor.
3. Laboratory Test Reports: For composite wood products, indicating compliance with requirements for low-emitting materials.
4. Laboratory Test Reports: For installation adhesives, indicating compliance with requirements for low-emitting materials.
5. Environmental Product Declaration (EPD): For each product.
6. Health Product Declaration (HPD): For each product.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: From ICC-ES, for wood sheathing products.

1.5 CLOSEOUT SUBMITTALS

A. Warranty: Executed copy of manufacturer special warranties.

1.6 QUALITY ASSURANCE

Specifier: Retain "Manufacturer Qualifications" Paragraph below if required by Project sustainable design requirements.

A. Manufacturer Qualifications: Capable of demonstrating that all wood procurement operations are conducted in accordance with procedures and policies of the Sustainable Forestry Initiative (SFI) Program.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

1.8 WARRANTY

Specifier: Verify warranty provisions for specified and comparable products.

A. Manufacturer's Warranty: Manufacturer's standard form in which sheathing manufacturer agrees to repair or replace sheathing products that demonstrate deterioration or failure under normal use due to manufacturing defects within warranty period specified, when installed according to manufacturer's instructions.

1. Construction Period Warranty: Panels will not delaminate nor require sanding due to moisture absorption during exposure due to construction, within 300 days of purchase.
2. Warranty Conditions: Warranties exclude deterioration or failure due to structural movement resulting in stresses on sheathing products exceeding manufacturer's written specifications, or due to air or moisture infiltration resulting from cladding failure or mechanical damage.
3. Warranty Period for Sheathing Products: **[20]** years following date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Provide floor sheathing/underlayment products manufactured by RSP Industries, Inc., Twinsburg OH 44087; (440)823-4502; www.rspanelsinc.com; info@rspanels.com.

2.2 PERFORMANCE REQUIREMENTS

Specifier: Retain "Fire-Resistance Ratings" Paragraph below if sheathing products are used as an approved product that is part of a fire-resistance-rated assembly indicated on the Drawings.

- A. Fire-Resistance Ratings: Provide approved products that are part of fire-resistance-rated assemblies tested for fire resistance per ASTM E119/UL 263.
- B. Acoustic Performance: Provide approved products that are part of acoustically-tested floor/ceiling assemblies tested for as follow:
 1. Sound transmission loss (STC) in accordance with ASTM E 90: Not less than 60.
 2. Impact sound transmission, (IIC) in accordance with ASTM E 492: Not less than 55.

2.3 WOOD PANEL PRODUCTS

- A. Single Source Limitations: Provide combination floor sheathing/underlayment product by a single manufacturer.

Specifier: Retain and edit "Certified Wood" Paragraph below as appropriate to Project sustainable design requirements.

- B. Certified Wood: Provide sheathing products produced from wood obtained from forests certified by SFI, FSC, or comparable sustainable forestry program acceptable to Architect.
- C. Oriented Strand Board: Comply with the following Product Standards:
 1. DOC PS 2, made with binder containing no added urea formaldehyde, with visible grade stamp and field identification.
 2. ICC-ES AC182.

RSP: Below is the ESR for Advantech; is there intent to obtain one specifically for SAPboard?

- D. Code Compliance Standard: ICC-ES ESR-1785 for basis of design product, or ICC-ESR of comparable product acceptable to Architect.
- E. Panel Exposure: Warranted by manufacturer to resist weather exposure for 300 days.

RSP: Below is a characteristic of Advantech; will SAPboard use same?

- F. **Fastener Marking:** On top panel surface with pre-spaced fastening symbols for 16-inches (406 mm) and 24-inches (610 mm) on center spacings

2.4 SUBFLOOR-UNDERLAYMENT

- A. Composite Acoustical Subfloor-Underlayment: Two sheets of 23/32 inch (mm) oriented strand board Exposure 1 floor panels pressure and adhesive laminated with acoustically insulating recycled rubber membrane interlayer.
 - 1. Basis-of-Design Product: Provide [RS Panels, Inc., SAPboard](#).
 - 2. Size: 24 by 96 inches or 48 by 96 inches.
 - 3. Thickness: Nominal 1-1/2 inches.
 - 4. Edge Profile: Tongued-and-grooved.
 - 5. Surface Finish: Fully sanded face.

2.5 FASTENERS

- A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
- B. Power-Driven Fasteners: ICC-ES ESR-1472.
- C. Subflooring Panel Adhesive: Product complying with ASTM D3498 or APA AFG-01 and recommended by floor panel manufacturer and adhesive manufacturer for application.

Specifier: Retain "Adhesives" Subparagraph if required for sustainable design requirements.

- 1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing spacing and alignment to determine if work is ready to receive sheathing. Proceed with sheathing work once conditions meet requirements.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. Sheathing Installation, General: Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
 - 1. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
 - 2. Stagger end joints of adjacent panel runs.
 - 3. Continuously support panel edges without tongue-and-groove edge profile where indicated.
 - 4. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
 - a. ICC-ES ESR-1472 for power-driven fasteners.
 - 5. Optimize joint arrangements resulting in minimum number of joints. Cut panels cleanly at penetrations.

B. Combination Subfloor-Underlayment Fastening

1. Wood Framing: Glue and screw. Penetrate wood framing members at least 1 inch.
2. Space panels 1/8 inch apart at supported panel ends.
3. Install fasteners 1 inch from tongued and grooved panel edges and 3/8 inch from square panel edges.
4. Space fasteners 6 inches on centers on supported panel ends and 12 inches on centers at intermediate support locations.

END OF SECTION