Recirculation Ballot 2023-R1:

This is a recirculation ballot to Committee Ballot 2023-C1 (issued 08/08/22 and closed 09/09/22). The highlighted changes in blue in this ballot are relative to **Ballot 2023-C1**.

Ballot 2023-C1 received no negative votes except for a comment, concerning the further update of 4 referenced standards. The ExSub agreed to issue this recirculation ballot, which is issued to afford all members of the Committee an opportunity to respond, reaffirm, or change their vote. See the ballot instruction for the recirculation ballot on the attached ballot form.

All changes that have been approved by Ballot 2023-C1 are shown in the underline (new text) and ~~strike-out~~ (deleted current text) format. For this recirculation ballot, additional changes made to **Ballot 2023-C1** in response to the comment received from **Ballot 2023-C1** are further highlighted in blue in Sections 2.1 and 2.2.

###

Ballot item is as follows:

ANSI/APA PRS 610.1-~~2018~~2023

Standard for Performance-Rated Structural Insulated Panels in Wall Applications

American National Standard

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution. The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone~~, whether he has approved the standards or not,~~ from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this ~~standard~~ Standard.

Caution Notice: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this ~~standard~~ Standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY 10036
www.ansi.org

Published by
APA – The Engineered Wood Association
7011 South 19th Street
Tacoma, WA 98466

ANSI/APA PRS 610.1-~~2018~~2023

American National Standard

Standard for Performance-Rated Structural Insulated Panels in Wall Applications

APA – The Engineered Wood Association

Approved ~~April 16, 2018~~xxxx [This will be updated when approved by ANSI]
American National Standards Institute

FOREWORD **(This Foreword is not a part of American National Standard ANSI/APA PRS 610.1-~~2018~~2023)**

This standard provides requirements and test methods for qualification and quality assurance for performance-rated structural insulated panels (SIPs), which are manufactured with a foam plastic insulation core bonded between two wood structural panel facings intended for use in wall applications. Product performance requirements are specified.

The development of this consensus American National Standard was achieved by following the *Operating Procedures for Development of Consensus Standards* of *APA – The Engineered Wood Association,* approved by the American National Standards Institute (ANSI).

Inquiries or suggestions for improvement of this standard are welcome and should be directed to *APA – The Engineered Wood Association* at 7011 South 19th Street, Tacoma, WA 98466, www.apawood.org.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution. The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone~~, whether he has approved the standards or not,~~ from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

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CONTENTS **[Secretariat Notes: This section will be updated before the standard is published]**

This Standard, which was initiated by APA – The Engineered Wood Association, has been developed under the provisions of the American National Standards Institute (ANSI) as a revision of American National Standard ANSI/APA PRS 610.1-2018, *Standard for Performance-Rated Structural Insulated Panels in Wall Applications*. See History of Standard in Appendix X1, for further information.

1. SCOPE

1.1 The PRS-610.1 performance-rated structural insulated panels (referred to as SIPs hereinafter) are sandwich panels consisting of a foam plastic insulation core bonded between two wood structural panel facings. Performance rated refers to SIPs that meet the performance requirements as specified in this standard.

[No changes to the rest of Section 1]

2. REFERENCED DOCUMENTS

This standard incorporates dated references. These normative references are cited at the appropriate places in the text. Subsequent amendments or revisions to these references apply to this standard only when incorporated into this standard by amendments or revisions.

2.1 ~~ASTM~~ U.S. Standards:

ASTM C203-05a (~~2012~~2017) Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation

ASTM C272/C272M-~~16~~ 18 Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions

ASTM C273/C273M-~~16~~ 20 Standard Test Method for Shear Properties of Sandwich Core Materials

ASTM C297/C297M-16 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions

ASTM C393/C393M-~~16~~ 20 Standard Test Method for Core Shear Properties of Sandwich Constructions by Beam Flexure

ASTM C578-~~17a~~ 19 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation

ASTM D1621-16 Standard Test Method for Compressive Properties of Rigid Cellular Plastics

ASTM D1622-~~14~~ 20 Standard Test Method for Apparent Density of Rigid Cellular Plastics

ASTM D1623-17 Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics

ASTM D2126-~~15~~ 20 Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

ASTM D2915-17 (2022) Standard Practice for Sampling and Data-Analysis for Structural Wood and Wood-Based Products

ASTM D4761-~~13~~ 19 Standard Test Methods for Mechanical Properties of Lumber and Wood-Base Structural Material

ASTM D7446-09 (2017) Standard Specification for Structural Insulated Panel (SIP) Adhesive for Laminating Oriented Strand Board (OSB) to Rigid Cellular Polystyrene Thermal Insulation Core Materials

ASTM E72-15 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

ASTM E84-~~17~~ 22 Standard Test Method for Surface Burning Characteristics of Building Materials

ASTM E96/E96M-~~16~~ 22 Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials

ASTM E1803-14 (2022) Standard Test Methods for Determining Structural Capacities of Insulated Panels

ASTM E2126-~~11~~ 19 Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings

ASTM F1667-~~17~~ 21a Specification for Driven Fasteners: Nails, Spikes, and Staples

FM 4880 ~~(R2007)~~ 2017 American National Standard for Evaluating the Fire Performance of Insulated Building Panel ~~Wall or Wall and Roof/Ceiling Assemblies, Plastic Interior Finish Materials, Plastic Exterior Building Panels, Wall/Ceiling Coating Systems,~~ and Interior ~~and Exterior~~ Finish ~~Systems~~ Materials

NFPA 286-~~15~~19 Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth

PS 1-~~09~~19 Structural Plywood

PS 2-~~10~~18 Performance Standard for Wood ~~Based~~ Structural ~~Use~~ Panels

PS 20-~~15~~20 American Softwood Lumber Standard

UL 723-~~08~~18 Test for Surface Burning Characteristics of Building Materials

UL 1040-96 Fire Test of Insulated Wall Construction ~~with Revisions through September 2007~~

UL 1715-97 Fire Test of Interior Finish Material ~~with Revisions through April 2008~~

2.2 Other Standards and ~~Referenced~~ Documents:

CAN/ULC-S102 ~~10~~:2018 Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies

CAN/ULC-S102.2 ~~10~~:2018 Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies

CAN/ULC S701.1: ~~2017~~ 2022 Standard for Thermal Insulation, Polystyrene Boards

CSA O121-17 Canadian Douglas Fir Plywood

CSA O151-17 Canadian Softwood Plywood

CSA O325-~~16~~ 21 Construction Sheathing

~~*FM 4880 (R2007) American National Standard for Evaluating Insulated Wall or Wall and Roof/Ceiling Assemblies, Plastic Interior Finish Materials, Plastic Exterior Building Panels, Wall/Ceiling Coating Systems, Interior and Exterior Finish Systems*~~

~~*PS 1-09 Structural Plywood*~~

~~*PS 2-10 Performance Standard for Wood-Based Structural-Use Panels*~~

~~*PS 20-15 American Softwood Lumber Standard*~~

~~*UL 723-08 Test for Surface Burning Characteristics of Building Materials*~~

~~*UL 1040-96 Fire Test of Insulated Wall Construction – with Revisions through September 2007*~~

~~*UL 1715-97 Fire Test of Interior Finish Material – with Revisions through April 2008*~~

~~2.3 International Standards:~~

ISO/IEC 17011-~~2004~~ 2017 Conformity Assessment—~~General~~ Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies

ISO/IEC 17020-2012 Conformity Assessment—Requirements for the Operation of Various Types of Bodies Performing Inspection

ISO/IEC 17025-~~2005~~ 2017 General Requirements for the Competence of Testing and Calibration Laboratories

ISO/IEC 17065-2012 Conformity Assessment—Requirements for Bodies Certifying Products, Processes and Services

~~*NFPA 286-15 Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*~~

3. TERMINOLOGY

3.1 Definitions

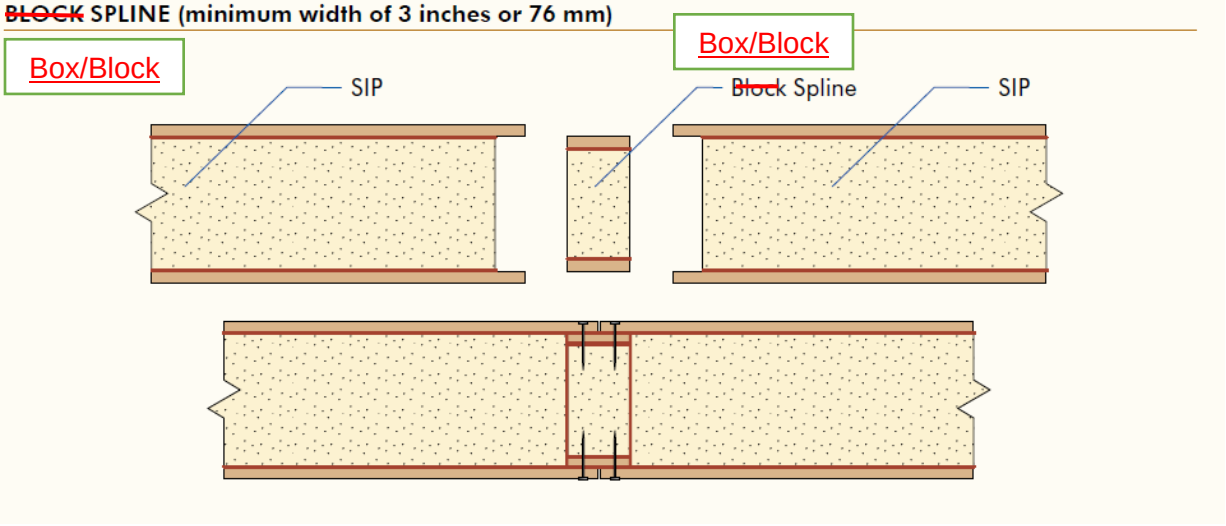
See the referenced documents for definitions of terms used in this standard.

3.2 Description of Terms Specific to This Standard:

Spline, Box/Block—a spline consisting of wood structural panels of the same material as the structural insulated panel facings bonded with the same foam core to form a block with overall thickness equal to the core thickness of the two structural insulated panels to be connected that fit into a recess at the vertical edges of the two structural insulated panels to be connected (see Figure 1); the width of the box/block spline shall be 3 inches (76 mm) minimum

FIGURE 1

~~BLOCK~~ SPLINE (minimum width of 3 inches or 76 mm)



APPENDIX X1. HISTORY OF STANDARD (NON-MANDATORY INFORMATION)

In October 2007, the APA Standards Committee on Standard for Performance-Rated Structural Insulated Panels in Wall Applications was formed to develop a national standard under the consensus processes accredited by the American National Standards Institute (ANSI). This national consensus standard, designated as ANSI/APA PRS 610.1, was developed in collaboration with the Structural Insulated Panel Association (SIPA) based on broad input from around the world. The first version of this standard was approved by ANSI for publication on May 28, ~~2018~~2013. This standard ~~supersedes~~ was subsequently revised in 2018 and 2023 as ANSI/APA PRS 610.1-~~2013~~ 2018 and ANSI/APA PRS 610.1-2023, respectively, with editorial changes and reference updates.

The names of the ANSI/APA PRS 610.1 Committee members when this version of the standard was published are as shown below. The current list of the committee member~~ship~~ is available from the committee secretariat upon request.

[Secretariat: The Committee roster will be updated before publication.]

Inquiries or suggestions for improvement of this standard should be directed to:
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