



Standard Test Methods for Evaluating Side-Bonding Potential of Wood Coatings¹

This standard is issued under the fixed designation D6958; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These test methods describe an evaluation procedure for the determination of undesirable side-bonding of coatings for wood flooring. They provide two mechanical properties tests for the quantitative determination of the cohesive strength of wood coatings (tensile and lap shear); they also provide a wood floor simulation test for the qualitative determination of side-bonding potential of wood coatings.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards*:²

D9 Terminology Relating to Wood and Wood-Based Products

D2370 Test Method for Tensile Properties of Organic Coatings

D4444 Test Method for Laboratory Standardization and Calibration of Hand-Held Moisture Meters

2.2 *British Standards*:³

B.S. 1204 British Standard Test for Synthetic Resin Adhesives

2.3 *Maple Flooring Manufacturers Association (MFMA)*:⁴
Guide Specification for Double Plywood Floor System
Guide Specification for Sleeper and Sleeper with Plywood Floor Systems

2.4 *Wood Flooring Manufacturers Association (NOFMA)*:⁵
Cracks in Hardwood Floors

2.5 *National Wood Flooring Association (NWFA)*:⁶
Hardwood Floors Trouble Shooting Manual

3. Terminology

3.1 *Definitions*:

3.1.1 Definitions used in these test methods are in accordance with terminology used in Terminology **D9**. A few related terms not covered in these test methods are as follows:

3.1.2 *panelization*—adjacent boards acting as a composite panel instead of individual strips when subjected to changes in temperature and humidity as well as other site conditions.

3.1.3 *panelization failure*—the condition where localized excessive gaps beyond specified limits develop between some strip flooring boards due to panelization.

3.1.4 *percent wood failure*—the rupturing of wood fibers in strength tests on bonded specimens usually expressed as the percentage of total area involved, which shows such failure. The inverse of adhesive failure.

3.1.5 *side-bonding*—the bonding of adjacent strips of wood flooring caused by the floor coating resulting in panelization. This is one possible cause of panelization failure.

3.1.6 *side-bonding wood failure*—the failure of the wood within a strip, as in classic wood failure, when the movement of the strip within the floor is restrained from moisture-related movement by excessive side-bonding. In this situation, the toughness or “work-to-break” of the side-bonding is sufficient to overcome the tensile strength perpendicular to the grain of the wood strip.

¹ These test methods are under the jurisdiction of ASTM Committee **D07** on Wood and are the direct responsibility of Subcommittee **D07.01** on Fundamental Test Methods and Properties.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from British Standards Institute (BSI), 389 Chiswick High Rd., London W4 4AL, U.K., <http://www.bsi-global.com>.

⁴ Available from the Maple Flooring Manufacturers Association, Inc. (MFMA), 111 Deer Lake Road, Suite 100, Deerfield, IL 60015, <http://www.maplefloor.org>.

⁵ Available from the Wood Flooring Manufacturers Association (NOFMA), formerly known as the National Oak Flooring Manufacturers Association, 22 N. Front Street, Suite 1080, Memphis, TN 38103, <http://www.nofma.org>.

⁶ Available from the National Wood Flooring Association (NWFA), 111 Chesterfield Industrial Boulevard, Chesterfield, MO 63005, <http://www.woodfloors.org>