



Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems¹

This standard is issued under the fixed designation D 3498; 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 This specification covers minimum performance standards and test requirements for gap-filling construction adhesives for bonding plywood to lumber framing, particularly floor joists, at the construction site.

1.2 This specification provides a basis for ensuring the quality of the adhesives and is not intended as an application specification.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 The following precautionary caveat pertains only to the test method portion, Section 11, of this specification: *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:

D 572 Test Method for Rubber—Deterioration by Heat and Oxygen²

D 905 Test Method for Strength Properties of Adhesive Bonds in Shear by Compression Loading³

D 907 Terminology of Adhesives³

D 2016 Test Methods for Moisture Content of Wood⁴

D 4300 Test Methods for Ability of Adhesive Films to Support or Resist the Growth of Fungi⁵

D 4783 Test Methods for Resistance of Adhesive Preparations in Container to Attack by Bacteria, Yeast, and Fungi⁵

E 4 Practices for Force Verification of Testing Machines⁶

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods⁷

3. Terminology

3.1 *Definitions*—Many terms in this specification are defined in Terminology D 907.

3.1.1 *gap-filling adhesive, n*—an adhesive capable of forming and maintaining a bond between surfaces that are not close-fitting.

3.1.1.1 *Discussion*—Close-fitting is relative to a given material and industry; for example, standards in construction differ from standards in electronics. Some adhesives will bond by bridging without completely filling the gap; others by filling the gap completely.

3.1.2 *open assembly time, n*—the time interval between applying adhesive on the substrates and closing them together before bonding.

4. Significance and Use

4.1 This specification establishes test methods and performance requirements for adhesives bonding plywood to wood framing members.

4.2 This specification provides a basis for ensuring the quality of the adhesives.

4.3 The tests provide shear strength performance data when the substrates are conditioned to simulate various conditions that may occur during sub-floor adhesive application and curing.

4.4 The tests are suitable for product performance certification and quality control programs, and can be useful to the general public, adhesive manufacturers, distributors, specifiers, architects, contractors, testing laboratories and other businesses and professionals.

4.5 The results do not include all possible conditions, which may occur during final assembly, but indicate a set of performance characteristics for laboratory controlled bonding variables.

¹ This specification is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of Subcommittee D14.70 on Construction Adhesives.

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² *Annual Book of ASTM Standards*, Vol 09.01.

³ *Annual Book of ASTM Standards*, Vol 15.06.

⁴ Discontinued; see 1989 *Annual Book of ASTM Standards*, Vol 04.09.

⁵ Discontinued; see 1983 *Annual Book of ASTM Standards*, Vol 15.06.

⁶ *Annual Book of ASTM Standards*, Vol 03.01

⁷ *Annual Book of ASTM Standards*, Vol 14.02.