



Standard Test Method for Resistance to Creep of Adhesives in Static Shear by Compression Loading (Wood-to-Wood)¹

This standard is issued under the fixed designation D7966/D7966M; 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 test method covers the determination of creep properties of structural adhesives in wood-to-wood bonds when a standardized specimen is subjected to shearing stresses at various levels of static load, constant temperature, and relative humidity. Apparatus and procedures are provided for shear deformation (creep) of adhesive bonds under static load. This test method is used under the indicated conditions to evaluate resistance to creep properties of a structural wood adhesive.

1.2 The test method is used to evaluate creep performance of adhesives suitable for the bonding of wood, including treated wood, into structural wood products for general construction, marine use, or for other uses where a high-strength general construction, creep-resistant, durable adhesive bond is required. Individual block shear specimens are prepared from adhesively bonded laminations, subjected to a constant load under various combinations of temperature and relative humidity, and the amount of creep measured.

1.3 Creep of structural wood adhesives as measured by this test method may not be comparative to other ASTM methods and is limited to the conditions of the test and procedures contained herein.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 *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.*

¹ This test method is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of Subcommittee D14.30 on Wood Adhesives.

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2. Referenced Documents

2.1 ASTM Standards:²

D905 Test Method for Strength Properties of Adhesive Bonds in Shear by Compression Loading

D907 Terminology of Adhesives

D1101 Test Methods for Integrity of Adhesive Joints in Structural Laminated Wood Products for Exterior Use

D2395 Test Methods for Density and Specific Gravity (Relative Density) of Wood and Wood-Based Materials

D2559 Specification for Adhesives for Bonded Structural Wood Products for Use Under Exterior Exposure Conditions

D4442 Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials

E4 Practices for Force Verification of Testing Machines

2.2 Other Document:³

CSA O112.9 Evaluation of Adhesives for Structural Wood Products (Exterior Exposure)

2.3 ASTM Adjuncts:

Compression-Shear Creep Test Apparatus⁴

3. Terminology

3.1 *Definitions:* Many terms in this test method are defined in Terminology D907.

3.1.1 *laminated wood, n*—the fabricated product resulting from the bonding of two or more laminations, with each lamination made from one or more pieces bonded either lengthwise, edgewise, or both, and all with the direction of the grain essentially parallel, to form a larger piece such as a structural member.

3.1.1.1 *Discussion*—Laminated wood as defined in D1101.

3.1.2 *stress, n*—the force exerted per unit area at a point within a plane.

3.2 Definitions of Terms Specific to This Standard:

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 APA – The Engineered Wood Association, 7011 S.19th St., Tacoma, WA 98466-5333, www.apawood.org.

⁴ Available from ASTM International Headquarters. Order Adjunct No. ADJ-ADJD4680. Original adjunct produced in 1987.