Designation: D1101 – 97a (Reapproved 2018)

Standard Test Methods for Integrity of Adhesive Joints in Structural Laminated Wood Products for Exterior Use[1]

This standard is issued under the fixed designation D1101; 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.

INTRODUCTION

The integrity of adhesive joints for structural laminated wood members, such as laminated arches and beams, should be at least equal to that of the wood. Because initial strength tests generally are not an adequate measure of integrity of adhesive joints under severe service conditions, a test that simulates the effects of exterior exposure has been devised to evaluate adhesive joints in structural laminated wood members intended for this type of service.

1. Scope

1.1 These test methods cover an accelerated means of measuring the resistance to delamination of structural laminated wood members intended for exterior service.

1.2 These test methods are not intended as substitutes or replacements for the more severe test of resistance to delamination in Specification D2559.

1.3 Two test methods are included. Choice of test method depends on purpose of the test and available time to complete.

1.3.1 *Test Method A*—This test requires 3 days to complete and is a method for determining the suitability of adhesives and manufacturing techniques and equipment for production of joints adequate for exterior service.

1.3.2 *Test Method B*—This test requires approximately 12½ h. (If excessive delamination occurs, the cycle is repeated). It is a quality-control type test for examining adhesive joint quality.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D907 Terminology of Adhesives

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

2.2 *Other Standards:*[3]

ANSI A190.1 American Nation Standard for Wood Products—Structural Glued Laminated Timber

3. Terminology

3.1 *Definitions*—Many terms in these test methods are defined in Terminology D907.

3.1.1 *glulam, n*—synonym for *structural-glued-laminated timber*.

3.1.2 *structural-glued-laminated timber, n*—an engineered stress-rated product of a timber laminating plant comprising assemblies of specially selected and prepared wood laminations securely bonded together with adhesives, with the following characteristics: (*1*) the grain of all laminations is approximately parallel longitudinally; and (*2*) the laminations may be comprised of pieces end-joined to form any length, of pieces placed or glued edge-to-edge to make wider ones or of

[1] These test methods are under the jurisdiction of ASTM Committee D14 on Adhesives and are the direct responsibility of Subcommittee D14.30 on Wood Adhesives.

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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 American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.