



Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing¹

This standard is issued under the fixed designation C 557; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope*

1.1 This specification includes properties and covers minimum performance standards for adhesives intended to bond the back surface paper of gypsum wallboard to wood framing members.

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

1.3 This specification also covers test requirements and test methods for the adhesive used for the application of all thicknesses of gypsum wallboard.

1.4 *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:

C 1396 Specification for Gypsum Board²

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

D 907 Terminology of Adhesives³

E 4 Practices for Force Verification of Testing Machines⁴

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods⁵

3. Terminology

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

4. Significance and Use

4.1 The specification applies to adhesives for bonding the back surface paper of gypsum wallboard of any thickness to wood-framing members.

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

4.3 Although the bonds rendered by these adhesives shall have enough strength by themselves to maintain the bond between adherends, they are not intended as a substitute for the common practice of using mechanical fasteners to maximize integrity of drywall-wood-framing structures.

4.4 The tests are suitable for products 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.

5. Adhesive Physical Property Requirements

5.1 **Adhesives**—The adhesives shall be uniform, homogeneous mixtures of elastomeric polymers or viscoelastic resins, or both, free of lumps or foreign matter.

5.1.1 **Workability**—When applied to the framing member with a caulking gun or notched trowel, or both, in accordance with the manufacturer's instructions, the adhesive shall exhibit a consistency capable of ensuring non-sagging properties.

5.1.2 **Open Time**—The adhesive shall have an open assembly time of between 10 to 20 min to give the user sufficient time to apply and, if necessary, reposition the gypsum wallboard at ambient temperatures, ranging from 40 to 100°F (4 to 38°C).

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 04.01.

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

⁴ *Annual Book of ASTM Standards*, Vol 03.01

⁵ *Annual Book of ASTM Standards*, Vol 14.02.