



Designation: D 6464 – 02

Standard Specification for Expandable Foam Adhesives for Fastening Gypsum Wallboard to Wood Framing¹

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1. Scope

1.1 This specification establishes minimum performance requirements for determining strength, aging, and working properties of expandable foam adhesives intended for bonding back surfaces of gypsum wallboards of all thicknesses to wood framing. Minimum physical and performance requirements are specified for all measured properties of adhesives and adhesive bonds.

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 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/C 1396M 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 Practice for Force Verification of Testing Machines⁴

3. Terminology

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

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *expandable foam adhesive, n*—any polymer that expands during delivery or cure to fill the space between substrates.

4. Significance and Use

4.1 This specification applies to expandable foam adhesives used to bond the back surface of gypsum wallboard to Douglas-fir dimensional lumber or other lumber species of equivalent bonding qualities capable of meeting the test requirements.

4.2 The specification establishes the minimum strength requirements of the bond for the selected assembly materials.

4.3 The adhesive is not considered a substitute for mechanical fasteners. Fasteners will be required to restrict expansion of the foam adhesive while it cures. The recommended fastening schedule must appear in the manufacturer's application instructions.

5. Adhesive Physical Property Requirements

5.1 *Open Assembly Time*—These adhesives have a distinct open assembly time and this time must be agreed upon by the user and the manufacturer.

5.2 *Storage Life*—The adhesive shall remain serviceable and meet all the requirements of this specification for not less than six months after delivery, when stored in original unopened containers at temperatures ranging from 40 to 85°F (4 to 30°C).

6. Adhesive Properties and Performance

6.1 The adhesives shall conform to the requirements summarized in Table 1.

7. Materials for Conducting Tests

7.1 *Adhesives*—The adhesive shall be an expandable foam adhesive.

7.2 *Gypsum Wallboard*— $\frac{1}{2}$ in. (12.7 mm) thick, complying with Specification C 1396/C 1396M; the dimensions are specified in each test.

7.3 *Plywood*— $\frac{3}{4}$ or $\frac{23}{32}$ in. (19.0 or 18.3 mm)-thick U.S. Product Standard PS-1-95 grade marked stamped, commercial plywood, Exterior, Group 1 Species, A-A or A-B grade face and back veneers. The test specimen dimensions are specified in each test.

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.