



Designation: E 2134 – 01

Standard Test Method for Evaluating the Tensile-Adhesion Performance of an Exterior Insulation and Finish System (EIFS)¹

This provisional standard is issued under the fixed designation E 2134; the number immediately following the designation indicates the year of original adoption.

1. Scope

1.1 This test method evaluates the tensile-adhesion performance of an exterior insulation and finish System (EIFS) or its individual components by two different procedures: Procedure A, Dry Conditioning and Testing of Specimens; and Procedure B, Wet Conditioning and Testing of Specimens.

1.2 The values stated in SI units are to be regarded as the standard. The inch-pound 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:

E 4 Practice for Force Verification of Testing Machines²

E 631 Terminology of Building Constructions³

2.2 EIFS Industry Members Association (EIMA):

Guideline Specification for Exterior Insulation and Finish Systems, Class PB⁴

3. Terminology

3.1 Definitions:

3.1.1 For definitions of general terms relating to building construction used in this test method, see Terminology E 631.

3.2 Definitions of Terms Specific to this Standard:

3.2.1 *adhesion*—the state in which two surfaces are held together by forces at the interface.

3.2.2 *cohesion*—the molecular attraction that holds a body together. The internal strength of a material.

3.2.3 *specimen*—the entire assembled unit cut from the sample and submitted for test as described in Section 7.

3.2.4 *tensile-adhesion strength*—the ultimate strength in tension normal to the plane of the system.

4. Summary of Test Method

4.1 Specimens are tested by applying tensile loads normal to the plane of the system in a controlled environment to determine the tensile adhesion of the system or individual components of the system, of both.

5. Significance and Use

5.1 Maintenance of adequate tensile adhesion of EIFS components to each other, and to the substrate are essential for long term performance of the system.

5.2 The tensile-adhesion properties obtained by this test method are not purported to be representative of wind load or other structural and moisture related properties of the EIFS wall assembly. Tensile-adhesion properties using this test method are used as one of the factors in evaluating substrates and to compare adhesives.

6. Apparatus

6.1 *Tensile Test Machine*, capable of producing a tensile load on the test specimen at a constant cross-head rate of 1.5 mm/min (0.05 in./min).

6.2 *Load Measuring Device*, calibrated according to Practice E 4, the test machine load measuring device shall be capable of measuring the load to an accuracy of $\pm 1\%$ of the maximum load applied to the test specimen.

6.3 *Loading Fixtures*— The loading fixtures shall be self-aligning and shall not apply eccentric loads. The loading fixtures shall be a minimum of 12.0-mm (0.5-in.)-thick metal blocks to keep the bonded facings essentially flat under the maximum applied load. The size of the loading blocks shall be not less than the bonded area of the test specimen.

6.4 *Temperature Control Chamber*—A room or chamber capable of maintaining $23 \pm 3^\circ\text{C}$ ($75 \pm 5^\circ\text{F}$) and $50 \pm 5\%$ relative humidity.

6.5 *Containers*, corrosion resistant containers of sufficient size to hold specimens.

¹ This test method is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.58 on Exterior Insulation and Finish Systems (EIFS).

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² *Annual Book of ASTM Standards*, Vol 03.01.

³ *Annual Book of ASTM Standards*, Vol 04.11.

⁴ Available from EIMA, 3000 Corporate Center Drive, Suite 270, Morrow, GA 30260.