



Standard Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to a Sodium Hydroxide Solution¹

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1. Scope

1.1 This test method covers procedures for determining the breaking force of glass fiber mesh following their conditioning in an alkali solution. The method is applicable to glass fiber mesh used in Class PB Exterior Insulation and Finish Systems (EIFS) with base coats that contain portland cement as an ingredient.

1.2 Breaking force is expressed both as force per unit width of mesh and as a percentage of the breaking force of the mesh that has not been exposed to alkali conditioning.

1.3 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.

1.4 *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:²

[D76/D76M Specification for Tensile Testing Machines for Textiles](#)

[D579/D579M Specification for Greige Woven Glass Fabrics](#)

[D5035 Test Method for Breaking Force and Elongation of Textile Fabrics \(Strip Method\)](#)

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 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.

[E631 Terminology of Building Constructions](#)

[E2110 Terminology for Exterior Insulation and Finish Systems \(EIFS\)](#)

2.2 *Other Documents:*³

[EIFS Industry Members Association \(EIMA\) Guideline Specification for Exterior Insulation and Finish Systems \(EIFS\), Class PB](#)

3. Terminology

3.1 For general terminology regarding EIFS and building in general, see Terminology [E2110](#) (for EIFS terms) and Terminology [E631](#) (for buildings in general).

4. Summary of Test Method

4.1 Specimens are tested for breaking force with and without conditioning. Conditioning is immersion for 28 days in an aqueous solution of 5 % sodium hydroxide.

4.2 Breaking force is determined by mounting a test specimen in a tensile testing machine and applying a force to the specimen until it breaks.

5. Significance and Use

5.1 Glass fiber reinforcing meshes are used to strengthen EIFS. The reinforcing meshes are embedded into base coats that contain portland cement, which potentially exposes the glass fibers in the reinforcing meshes to weakening by the action of alkali. The breaking force following alkali exposure as determined by this method, is a factor used to comparatively evaluate the alkali resistance of EIFS glass fiber reinforcing meshes in the laboratory.

5.2 This test method does not purport to simulate the conditions that may be encountered in service. The performance of an EIFS is a function of many factors, such as proper installation, rigidity of supporting construction and resistance of the EIFS to deterioration by other causes.

³ Available from the EIFS Industry Members Association (EIMA), 513 West Broad Street, Suite 210, Falls Church, VA 22046-3257, <http://www.eima.com>.