



Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves¹

This standard is issued under the fixed designation E11; 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 U.S. Department of Defense.

1. Scope*

1.1 This document specifies the technical requirements for; the woven wire test sieve cloth (sieve cloth) used in test sieves, the construction of test sieves, standard and non-standard test sieve frame sizes, and test procedures used to inspect sieve cloth and the test sieves. This specification applies to test sieves manufactured with sieve cloth having a nominal aperture size ranging from 125 millimetres (mm) down to 20 micrometres (µm).

1.2 Additional reference information can be found in Specifications [E161](#), [E323](#), [E2016](#), and in Test Methods [C430](#) and [E2427](#).

1.3 The values stated in SI units shall be considered standard for the dimensions of the sieve cloth openings and the wire diameters used in the sieve cloth. The values stated in inch-pound units shall be considered standard with regard to the sieve frames, pans, and covers.

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

[C430](#) Test Method for Fineness of Hydraulic Cement by the 45-µm (No. 325) Sieve

[E161](#) Specification for Precision Electroformed Sieves

[E323](#) Specification for Perforated-Plate Sieves for Testing Purposes

[E1638](#) Terminology Relating to Sieves, Sieving Methods, and Screening Media

¹ This specification is under the jurisdiction of ASTM Committee [E29](#) on Particle and Spray Characterization and is the direct responsibility of Subcommittee [E29.01](#) on Sieves, Sieving Methods, and Screening Media.

Current edition approved Aug. 1, 2016. Published August 2016. Originally approved in 1925. Last previous edition approved in 2015 as E11 – 15. DOI: 10.1520/E0011-16.

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.

[E2016](#) Specification for Industrial Woven Wire Cloth

[E2427](#) Test Method for Acceptance by Performance Testing for Sieves

2.2 *Federal Standard:*³

[Fed. Std. No. 123](#) Marking for Shipment (Civil Agencies)

2.3 *Military Standard:*³

[MIL-STD-129](#) Marking for Shipment and Storage

2.4 *ISO Standard:*⁴

[ISO 3310-1](#) Test Sieves—Technical Requirements and Testing – Part 1: Test Sieves of Metal Wire Cloth

3. Terminology

3.1 *Definitions*—Additional terms can be found in Terminology [E1638](#).

3.1.1 *aperture*—the dimension defining an opening in a screening surface.

3.1.2 *backing cloth*—a wire mesh support layer used directly under the sieve cloth with an opening coarser than the sieve designation.

3.1.3 *crimp*—the corrugation in the warp and shute wire, or both. The crimp in the wires is formed either during the weaving process, or with a crimping machine prior to weaving. If formed during the weaving process, the tension existing between the warp and shute wires fundamentally determines the respective amount or depth of crimp, which locks the wires in place, and in part establishes the firmness of the sieve cloth.

3.1.4 *firmness*—a subjective term referring to the planar rigidity of sieve cloth (as a roll good, not mounted in a test sieve frame), established by the tensile strength of the material, the relationship of the mesh to wire diameters, the type of weave, and amount of crimp in the wires. The absence of firmness in sieve cloth is termed *sleaziness*.

3.1.5 *matched test sieve*—a test sieve that reproduces the performance results of another test sieve within user defined limits for a designated material (for information only and may not be in compliance with this specification).

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

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

*A Summary of Changes section appears at the end of this standard