# Review of Wire Cloth Specifications and Standards

**prepared by Kenneth H. Beyer, March 2007***

**CS-232**

Commercial Standard CS232-60 (obsolete)
Industrial Wire Cloth

Published by the U.S. Department of Commerce, with the cooperation of the National Bureau of Standards and the Industrial Wire Cloth Institute, effective October 1960.

The purpose of this standard was to promote fair trade and marketing practices and promote a better understanding of industrial wire cloth. It was comprehensive in attention to definitions and basic tolerances. No information on when it was withdrawn is available.

**RR-W-360A**

Federal Specification RR-W-360A (obsolete)
Wire Fabric, Industrial

Published by the Federal Supply Service, General Services Administration, for the use of all Federal agencies, effective December 1970.

It was originally published as RR-C-00440 effective February 1954, which was superseded by RR-C-440 effective April 1956, which was then superseded by RR-W-360 effective February 1963.

This was, and still is probably the most widely referenced standard for wire cloth. It established types, classes, requirements and tolerances, as well as promoting 4 specific grades, based on wire diameters for certain mesh designations. RR-W-360 was used as the basis for writing AWCI-01. It became obsolete due to the government no longer supporting specifications.

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**E-437**
American Society for Testing and Materials, ASTM E-437 (obsolete)
Standard Specification for Industrial Wire Cloth and Screens (Square Opening Series)

Published by ASTM Subcommittee E29.01 for Sieves, Sieving Methods, and Screening Media, under Committee E29 for Particle Size Measurement, effective 1971.

This specification intended to cover wire cloth for general industrial use, and was commonly referenced, but was not applicable to industrial woven wire cloth as tolerances and specifications were based on width opening, not mesh count as used and woven domestically. It designated 4 grades of mesh and wire diameter combinations as did RR-W-360, but tolerances were based on the average width opening. An E29 withdrawal ballot was approved March 2000.

**A-A-1037A**
Commercial Item Description A-A-1037A (obsolete)
Wire Fabric (Industrial)

Published by the General Services Administration in lieu of RR-W-360, not as a specification but as a commercial item description, effective April 1980.

This document was very general, and was not truly applicable as it stated that wire fabric design, size, and tolerances shall be in accordance with ASTM E-437. The Commissioner of the Federal Supply Service under GSA issued cancellation of CID A-A-1037B (Rev. 1990) on January 10, 1994 and stated that ANSI/AWCI-01-1992 will be used for procurement.

**9044**
International Standards Organization, ISO 9044:1999 (current)
Industrial Woven Wire Cloth – Requirements and Tests

Published by ISO TC24/SC3, effective 1990 (Technical Committee 24 for Sieves, sieving, and other sizing methods / Sub-Committee 3 for Industrial wire screens).

This detailed and comprehensive standard covers industrial woven wire cloth, but is not applicable for domestic wire cloth based on mesh designation. It specifies preferred designations based on aperture and grade, based on metric specifications, and excludes the definition of mesh.

**AWCI-01**
American National Standards Institute, ANSI:AWCI-01 (obsolete)
American National Standard for Industrial Wire Cloth

Published by ANSI, and sponsored by the American Wire Cloth Institute (AWCI), effective June 1992.

This standard had the advantage of being the only standard to cover industrial wire cloth as specified and manufactured in the United States according to mesh. It was written to cover woven wire cloth, for industrial use including the separation of particles.

By 1989, the AWCI was seriously feeling the void created as RR-W-360 was out of print and no longer supported by the Federal government. It was felt that it would have been futile to have tried to persuade ISO TC24/SC3 to incorporate mesh count in 9044. ASTM Committee E29

was contacted, but we were advised that revising E-437 to incorporate mesh tolerances would have been very difficult, as well as a lengthy and costly process. Therefore, it was decided to publish a new standard via ANSI.

AWCI-01 was prepared by a committee of the AWCI, and revised based on comments received through the ANSI canvass ballot procedures, which resulted in consensus approval. It was attempted to develop the standard using RR-W-360 as the basis, and incorporate concepts such as defective openings and maximum number of blemishes from ISO 9044.

In March 1997, ANSI requested fees from the AWCI as the sponsor, of $1995 annual maintenance and $3500 accreditation audit fee for a 5 year re-approval. This was due to a change in the ANSI by-laws in 1995, but the AWCI felt it was exorbitant, and allowed the standard to be withdrawn in July 1997.

**E-2016**

American Society for Testing and Materials, ASTM E-2016 (current)
Standard Specification for Industrial Woven Wire Cloth

Published by ASTM Subcommittee E29.01 for Sieves, Sieving Methods, and Screening Media, under Committee E29 for Particle Size Measurement, effective 1999.

This standard is essentially the AWCI-01 revised to conform with ASTM guidelines. At the October 1997 ASTM E29.01 committee meeting, the AWCI presented a request to replace E437 with a new standard for industrial wire cloth, based on mesh designation. The committee was enthusiastic, and it was determined that on average the AWCI-01 tolerances for the resulting openings based on mesh tolerance, were approximately 5% tighter than the E437 tolerances, allowing the plan for the new standard to be approved. A new draft was completed March 1998, balloted to E29, and after further revision, finally approved in April 1999.

**E-11**

American Society for Testing and Materials, ASTM E-11 (current)
Standard Specification for Wire Cloth and Sieves for Testing Purposes

Published by ASTM Subcommittee E29.01 for Sieves, Sieving Methods, and Screening Media, under Committee E29 for Particle Size Measurement, effective 1925.

This standard covers sieve cloth specifications based on aperture tolerances. Sieve cloth is used for the sizing of particles, as opposed to industrial wire cloth used for the separation of particles. E-11 is currently being revised to more closely align with equivalent ISO 3310.

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