

ASTM International

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ASTM International (ASTM), originally known as the **American Society for Testing and Materials**, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services. The organization's headquarters is in West Conshohocken, Pennsylvania, about 5 miles (8 km) northwest of Philadelphia.

ASTM, founded in 1898, predates other standards organizations such as BSI (1901), DIN (1917) and AFNOR (1926), but differs from these in that it is not a national standards body, that role being taken in the United States by ANSI. However, ASTM has a dominant role among standards developers in the USA, and claims to be the world's largest developer of standards. Using a consensus process, ASTM supports thousands of volunteer technical committees, which draw their members from around the world and collectively develop and maintain more than 12,000 standards.

ASTM International publishes the *Annual Book of ASTM Standards* each year in print, CD and online versions. The online version was available by subscription and cost was based upon usage. For 2008, the complete set of books or CDs cost almost US\$9000 and included 81 volumes. For 2010, the complete set of books or CDs cost almost \$9700 and included 82 volumes.



ASTM
International logo

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History

A group of scientists and engineers, led by Charles Benjamin Dudley formed the *American Society for Testing and Materials* in 1898 to address the frequent rail breaks plaguing the fast-growing railroad industry. The group developed a standard for the steel used to fabricate rails.

In 2001, ASTM changed its name to ASTM International to reflect global participation in ASTM and worldwide use of its standards.

In 2009, a joint effort by standards development organizations AAMI, ANSI, ASTM, and DIN created a single, centralized database for medical device standards.^[1]

Standards

The standards produced by ASTM International fall into six categories:

- the **Standard Specification**, that defines the requirements to be satisfied by subject of the standard.
- the **Standard Test Method**, that defines the way a test is performed and the precision of the result. The result of the test may be used to assess compliance with a Standard Specification.
- the **Standard Practice**, that defines a sequence of operations that, unlike a Standard Test Method, does not produce a result.
- the **Standard Guide**, that provides an organized collection of information or series of options that does not recommend a specific course of action.
- the **Standard Classification**, that provides an arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.
- the **Terminology Standard**, that provides agreed definitions of terms used in the other standards.

The quality of the standards is such that they are frequently used worldwide.

The *Annual Book of ASTM Standards* covers 15 sections of interest plus a master index:

1. Iron and Steel Products
2. Nonferrous Metal Products
3. Metals Test Methods and Analytical Procedures
4. Construction
5. Petroleum Products, Lubricants, and Fossil Fuels
6. Paints, Related Coatings, and Aromatics
7. Textiles
8. Plastics
9. Rubber
10. Electrical Insulation and Electronics
11. Water and Environmental Technology
12. Nuclear, Solar, and Geothermal Energy
13. Medical Devices and Services
14. General Methods and Instrumentation
15. General Products, Chemical Specialties, and End Use Products
16. Index to all sections and volumes

ASTM Standards can be purchased as a digital library subscription or individually from ASTM and other qualified ^[2] standards providers. When maintaining a large standards library, often digital subscriptions are used to simplify staying current on standards and to remain in compliance with all copyright laws. A technical library at a university may also have copies of standards to review.

Membership and organization

Membership in the organization is open to anyone with an interest in its activities.^[3] Standards are developed within committees, and new committees are formed as needed, upon request of interested members. Membership in most committees is voluntary and is initiated by the member's own request, not by appointment nor by invitation. Members are classified as users, producers, consumers, and "general interest". The latter include academics and consultants. Users include industry users, who may be producers in the context of other technical committees, and end-users such as consumers. In order to

