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## Collecting Standards for Scholarship, Organization, Industry, and Innovation

Julia Gelfand

*University of California, Irvine*

Ibironke Lawal

*Virginia Commonwealth University*

Jill Powell

*Cornell University*

Anne Rauh

*Syracuse University*

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# Collecting Standards for Scholarship, Organization, Industry, and Innovation



Julia Gelfand  
University of  
California, Irvine



Ibronke Lawal  
Virginia  
Commonwealth  
University



Jill Powell  
Cornell  
University



Anne Rauh  
Syracuse  
University

# What are standards?

A standard is a document that has been developed and established within the consensus process of the society. [ASTM]

A standard is a technical document designed to be used as a rule, guideline... It is a consensus-built, repeatable way of doing something. [European Committee for Standardization-CEN]

A standard is an agreed way of doing something. It could be about making a product, managing a process, delivering a service or supplying materials- standards can cover a huge range of activities undertaken by organizations and used by their customers. [BSI]

A standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.[ISO]

# Sample Standard



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## Designation: F2900—11

### Standard Guide for Characterization of Hydrogels used in Regenerative Medicine<sup>1</sup>

Active Standard ASTM F2900

ADD/EDIT ANNOTATION

This standard is issued under the fixed designation F2900; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

#### In this standard:

[Section 1 Scope](#)

[Section 2 Referenced Documents](#)

[Section 3 Terminology](#)

[Section 4 Significance and Use](#)

[Section 5 Key Factors for Hydrogel Characterization](#)

Search ASTM Compass

⌵ All Topic, title, author, A53



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# Why are standards important?

Standards provide people and organizations with a basis for mutual understanding, and are used as tools to facilitate communication, measurement, commerce and manufacturing. Standards are everywhere and play an important role in the economy, by: facilitating business interaction. As important to basic business transactions as to technical environments.

Industrial standards are identified by test methods, guidelines, recommended practices, codes, specifications, manuals, provide certification; also trade associations issue standards

Role of NISO (National Information Standards Organization) & ANSI (American National Standards Institute) – approval body for domestic standards & rep to ISO (International Standards Organization)

## Types of Standards

Standards in categories

Standards could be by country National, for Example: BSI, Japanese standards



ASTM INTERNATIONAL

They could be International for Example: ISO Standards



Standards by Organization For Example: ASTM

Standards by Function

Specification

**Standard Specification for Specification for Crosslinked Polyethylene (PEX) Material Gas Pressure Pipe and Tubing ASTM F2818**

Code of Practice

**Standard Practice for Detailed Clinical Observations of Test Animals. ASTM E2045-99**

Test Methods and Analysis

**Standard Test Method for Rapid Field Test for Trace Lead in Unleaded Gasoline (Colorimetric Method) ASTM D3348**

# Types of Standards Contd.

Governmental e.g Federal Agencies

Medical Device for Example  
Standards on Accessibility



## AAMI STBK13-1/STBK13-1-CD ▶

Standards and Recommended Practices: Sterilization, Part 1 – Sterilization in Health Care Facilities, 2013 Edition

STANDARD by Association for the Advancement of Medical Instrumentation, 2013.

LANGUAGES: English

HISTORICAL EDITIONS: AAMI STBK12-1/STBK12-1-CD, AAMI STBK11-1, AAMI STBK06-1

## Industry Specific

Standards that enable better communication between manufacturers, designers and suppliers in the co-design, procurement and use of semiconductor products.

Title: IEC\* 62258 - 'semiconductor die products: requirements for procurement and use'



National Institute of Standards and Technology Mission to promote innovation and industrial competitiveness

Finding Aids -World Standards Services Network (WSSN)



World Standards Services Network (WSSN), is a network of publicly accessible World Wide Web servers of standards organizations around the world.

Techstreet

TECHSTREET™



IHS Markit™

# Publishing & Issuing Standards

- Versions, Editions & Updates are critical
- Know the source or issuer of needed standard
- Redlines – indicates & compares the changes made during the standards revision process between the active standard & previous edition. Noted are additions, deletions & content revisions with dates.



# Key Sources of Standards

Government Agencies - MilSpec, NISO, NIST

Corporate entities - such as Underwriter's Laboratory

Engineering Societies - ASME, IEEE, SAE, ASHRAE, SAE, ASTM, ASCE

Standards organizations - ANSI, ASTM

Trade associations such as Home Appliance Manufacturers

International standards, such as ISO

- Upon publication given acronym of the organization with a number and year, such as **ASCE 36-2001**.

# Key publishers of standards: it's all about acronyms



# Standards in the Engineering Curriculum

“Students must be prepared for engineering practice through a curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate **engineering standards** and multiple realistic constraints.”

ABET “[Criteria for Accrediting Engineering Programs, 2018 – 2019](#)”

# Standards on Campus

Other active users of standards on our campuses:

- Innovation centers
- Hospitals
- Law and policy centers
- Regulation and compliance issues
- Library school students
- Campus design and planning office, ergonomics office
- Accessibility offices
- Campus food service

# How to Obtain Standards

**IBR Portal** (Incorporated by Reference in the U.S. Code of Federal Regulations) - free to view; fee for print

**Ansi.org, Techstreet, IHSMarkit, Global SAI, ISO**

Order direct or via standards vendor; check prices

Licenses vary, check with acquisitions, copyright offices

Some offer deposit accounts, PDF downloads, print

NFPA - unique in that online viewing is free; fee for print.

LibGuide to keep track - UT Austin and [guides.library.cornell.edu/standards](http://guides.library.cornell.edu/standards)

University of California, Irvine

# California Digital Library

CDL co-investment of 7 campuses that participate in annual subscriptions to ASTM Digital Library, IEEE standards on Xplore, and locally to several other Engineering Society issued standards, ie) SAE. Can occasionally borrow from other campuses on ILL.

Recommend & maintain finding aid at

[https://guides.lib.uci.edu/standards\\_and\\_specs](https://guides.lib.uci.edu/standards_and_specs)

# Additional Standards

- Majority of needs are for ISO standards – ordered on an “as needed” basis from IHS & ANSI.
- Costs are covered by library’s Engineering Collection/Materials funds. Standards ordered by Acquisitions Dept in PDF and link given to campus user – not added to library collection.
- Spend approximately \$1600/yr.
- Proves to be cost-effective. Can use debit account or credit card/PalCard for purchase.



Virginia Commonwealth University

# Standards on Demand

Deposit Account with a Standards provider IHS. Order standards as requested. Electronic preferred. Standards sent to requestor. No cataloging, no addition to the collections. In case of print only, then it will be cataloged, before lending.

Meet with Julie

**Research Librarian**

[jaarendt@vcu.edu](mailto:jaarendt@vcu.edu)

(804) 828-1539



**Ibrinke Lawal**

**Collections Librarian**

[ilawal@vcu.edu](mailto:ilawal@vcu.edu)

(804) 828-8739

## Standards

### Standards

VCU has some standards online. Direct requests for others to [Ibrinke Lawal](#), Engineering and Science Collections Librarian, at [ilawal@vcu.edu](mailto:ilawal@vcu.edu) or 804-828-8739.

- [ASTM Compass](#)  
Industry-leading standards and technical engineering information. A pop-up box allows for free, full-text access to a standard.
- [IEEE Xplore](#)  
Comprehensive collection of articles, proceedings and standards in electrical engineering, computer science and electronics.

## Ask Us

# VCU

Virginia Commonwealth University

Cornell University



# Libguide, Ordering Process

Have ASTM and IEEE in online packages;

Libguide has finding aid.

[guides.library.cornell.edu/standards](https://guides.library.cornell.edu/standards)

The rest ordered on demand.

Acronym	Title of Resource	Location (online or hardcopy)
ACI	ACI Manual of Concrete Practice	Most-current manual is at the Uris Library Reference section (hardcopy). Older editions are available from the <a href="#">Library Annex</a> (hardcopy or CD-ROM)
ANSI	American National Standards Institute (Includes some ANS, ASAE, ASCE, ASHRAE, ASME, AWWA, EIA, NFPA, SAE, UL standards, some filed as ANSE/ASME)	<a href="#">American National Standards Institute</a> (online reference; full text may not be available)  Many individual standards are kept at the <a href="#">Library Annex</a> (hardcopy or CD-ROM).
ASCE	American Society for Civil Engineers standards	<a href="#">ASCE Library</a> (online) (or Search catalog for "ASCE standard" in <a href="#">Guided Keyword Search</a> )  Some ASCE standards are also included as part of the <a href="#">Knovel</a> digital library
ASQ	American Society for Quality	Some ASQ standards are also included as part of the <a href="#">Knovel</a> digital library
ASTM	Annual Book of ASTM standards	Regular access to both current and past standards via: <a href="#">ASTM Standards and Engineering Digital Library</a> (online)



Cornell University

## Ordering Process

Most requests come from schools of Engineering, Architecture, Design and Environmental Analysis on materials, safety, energy-efficient buildings, lighting, etc.

Order **print copies only** from IHS Markit and ANSI; rapid delivery with FedEx. Vendor sends us an invoice. Catalog print standards, allow patrons to check out.

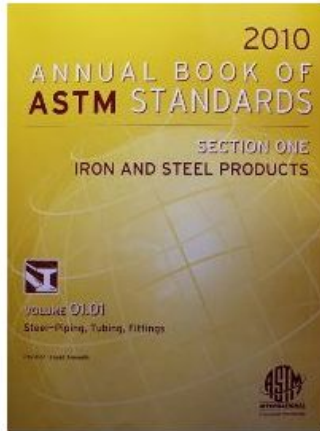
Shelve standards in reference so they don't go out on **interlibrary loan**.

Used to order PDFs, but DRM, copyright restrictions don't permit sharing and copies were watermarked with personal name of purchaser.

Syracuse University

# Standards Collections

## ASTM Standards



ASTM Standards are available through the [ASTM Standards and Engineering Digital Library](#).

## ASHRAE Standards

## Standards available from the SU Libraries

The Syracuse University Libraries owns a very limited number of standards in print and has access to [ASTM Standards](#) and [ASHRAE Standards](#) online. There are also individual standards available online through [TechStreet](#). Check here for your standard or search the library catalog for your standard in print. If not available, please contact [Emily Hart](#) to request standards for purchase.

## Search for Standards

While most do not provide open access to the full text of their standards, these organizations do provide searchable indexes:

- [American National Standards Institute \(ANSI\)](#)
- [American Society for Testing and Materials \(ASTM International\)](#)

## Your Librarian



[Emily Hart](#)

[Schedule Appointment](#)

## Subjects:

[Aerospace Engineering](#), [Biology](#), [Biomedical Engineering](#), [Chemical Engineering](#), [Chemistry](#), [Civil Engineering](#), [Computer Science](#),

<http://researchguides.library.syr.edu/standards>

# On Demand



- Individual standards via TechStreet
- Users request from Engineering Librarian
- Libraries adds the individual standard to the online subscription for the remained of the contract
- Paid by engineering one-time budget line
- At point of renewal, all individual standards are removed from TechStreet leaving only the ASHRAE collection



Questions?

# Further Reading

Erdmann, C. (2010), *Standards For New Educators: Guide To Abet Outcomes And Standards Availability In Libraries* paper presented at 2010 Annual Conference & Exposition, Louisville, Kentucky. <https://peer.asee.org/16224>

Leachman, C., & Leachman, J. W. (2015), *If the Engineering Literature Fits, Use It! Student Application of Grey Literature and Engineering Standards* paper presented at 2015 ASEE Annual Conference & Exposition, Seattle, Washington. <https://peer.asee.org/24218>

Leachman, C., & Pezeshki, C. (2015), *What's Standard? Industry Application versus University Education of Engineering Standards* paper presented at 2015 ASEE Annual Conference & Exposition, Seattle, Washington. <https://peer.asee.org/25068>

Osif, Bonnie A. *Using the Engineering Literature*. Boca Raton: CRC Press, 2012. <https://www.taylorfrancis.com/books/e/9781439850039>

# More Resources

These resources were shared by session attendees:

- Linda Hall Library has standards available via ILL - <https://www.lindahall.org/>
- IEEE has a standards development simulation game, Mars Space Colony: A Game of Standardization - <https://www.standardsuniversity.org/game/>
- The ANSI University Outreach Program allows for complimentary access to certain standards for classroom use - [https://www.ansi.org/education\\_trainings/university\\_outreach](https://www.ansi.org/education_trainings/university_outreach)[https://www.ansi.org/education\\_trainings/university\\_outreach](https://www.ansi.org/education_trainings/university_outreach)