# Sustainable Manufacturing at ASME

## *Portfolio Update, February 2025*

## UPCOMING CONFERENCES

**Manufacturing Science and Engineering Conference (MSEC)**
June 23–27, 2025, Greenville, South Carolina
https://event.asme.org/MSEC

ASME's Manufacturing Engineering Division (MED) sponsors MSEC for the scholarly exchange of advanced manufacturing research knowledge. Program tracks include:

- Additive Manufacturing
- Advance Materials
- Manufacturing Automation
- Life Cycle Engineering

**International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC-CIE)**
August 17-20, 2025, Anaheim, California
https://event.asme.org/IDETC-CIE

Thees events highlight emergent technologies that impact the critical engineering issues of product design and development, manufacturing, and the management and integration of information systems throughout the product life-cycle. These conferences are key for design and manufacturing engineers in academia, industry, and government.

For other ASME events see Conference & Event Overview

## CODES & STANDARDS

Relevant sustainable manufacturing related standards committees and their standards and or standard guidelines:

**Committee - B46 Classification and Designation of Surface Qualities,** (link) staff contact Shaimaa Khalifa

- **B46.1 Surface Texture (Surface Roughness, Waviness, and Lay) including Surface Finish for AM**

**Committee - B89 Dimensional Metrology Standards**, (link) staff contact Justin Cassamassino

- **B89.4.23- 2020 X-ray Computed Tomography (CT) Performance Evaluation Standard**

**BPTCS/BNCS Special Committee on the Use of Additive Manufacturing for Pressure Retaining Equipment**, (link) staff contact Allyson Byk

- **PTB-13 Criteria for Pressure Retaining Metallic Components Using Additive Manufacturing**

**Committee - Bioprinters Standards,** (link)

- *Standards development work is underway, staff contact* Fred Constantino

**Committee - MAM Manufacturing and Advanced Manufacturing**, (link) staff contact Justin Cassamassino

- **PHM Monitoring, Diagnostic, and Prognostic for Manufacturing** – publishing in 2025
- **Investment Analysis Guidelines in Manufacturing** – publishing in 2025

**Committee – MBE Model Based Enterprise**, (link) staff contact Fred Constantino

- **MBE-1 Model-Based Enterprise: Framework**

**Committee - VVUQ Verification, Validation, and Uncertainty Quantification**, (link) staff contacts: Lydia Stanford and Dan Papert

- **VVUQ1 Terminology in Computational Modeling and Simulation**
- **V V 10 - Standard for Verification and Validation in Computational Solid Mechanics**
- **V V 10.1 - An Illustration of the Concepts of Verification and Validation in Computational Solid Mechanics**
- **VVUQ 10.2 - The Role of Uncertainty Quantification in Verification and Validation of Computational Solid Mechanics Models**
- **V V 20 - Standard for Verification and Validation in Computational Fluid Dynamics and Heat Transfer**
- **VVUQ 20.1 - Multivariate Metric for Validation**
- **VVUQ 30.1 - Scaling Methodologies for Nuclear Power Systems Responses**

ASME SETTING THE STANDARD

See https://www.asme.org/about-asme/sustainability
Scan for more information

# SUSTAINABLE MANUFACTURING at ASME

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- **V V 40 - Assessing Credibility of Computational Modeling through Verification and Validation: Computational Modeling of Medical Devices**

**In development:**

- **VVUQ 50 Computational Modeling for Advanced Manufacturing**
- **VVUQ 60.1 Computational Modeling for Energy Systems**
- **VVUQ 70 Machine Learning**
- **VVUQ 80 Pharmaceutical Manufacturing**
- **VVUQ 90 Airframes**

**Committee - Y14 Engineering Product Definition and Related Documentation Practices**, (link) staff contact Fred Constantino

- **Y14.37 Product Definition for Composite Parts**
- **Y14.41 Digital Product Definition Data Practices**
- **Y14.46 Product Definition for Additive Manufacturing**
- **Y14.47 Model Organization Practices**
- **Y14.48 Standard on Universal Direction and Load Indicators** – in development

### Participate in Standards Development

Committees meet on a regular basis to update standards and create new standards. All committee meetings are open to the public and all industry stakeholders are welcome to join the process. No cost to be a committee member, and one does not need to be an ASME member to be on a committee. Contact the Staff Secretary for more information.

To learn more, visit: go.asme.org/joinCS

## CERTIFICATIONS

### Quality Program for Suppliers (QPS)

The QPS program is for any general industry organization regardless of the type of products produced or the size of the company. Typical companies that would benefit from QPS would be, but are not limited to:

- raw material manufacturers - ingots, slabs, additive materials
- material manufacturers - forgings, piping, fittings, castings, bolts and nuts, plates, filler metal (materials for welding)
- manufacturers with or without design responsibility - valve manufacturers, oil & gas, power, additive manufacturing, green industries
- service providers - NDE, auditing, heat treating, welding, cladding, machining, coatings

To learn more, visit: **Certification and Accreditation**

## LEARNING & DEVELOPMENT

Courses on the requirements of the Pressure Vessels codes and Pipeline & Piping standards throughout the lifecycle, from design, operation, in-service inspection and quality assurance.

### Sustainability

- **EL566 -** Design for Sustainability (Self Study)

*Autodesk and ASME Industry 4.0 courses, using real-world examples to help students and professionals gain the skills for a successful career in today's manufacturing industry.*

### Additive Manufacturing (3D Printing)

- **EL578** - Additive Manufacturing Design Advantages & Limitations (On Demand)
- **AM233** - Additive Manufacturing Material Properties
- **AM210** - Design for Additive Manufacturing with Metals
- **LP103** - Design for Additive Manufacturing with Metals Case Studies Package
- **LP102** - Design for Additive Manufacturing with Metals Professional Package

### Quality Program

- **EL564** - Overview of QPS (Quality Program for Suppliers) General Industry

**For more ASME courses visit: Find Courses**

## ASME'S COURSE BUILDER

ASME wants your ideas and is accepting applications to develop new **On Demand Courses**.

ASME is accepting applications for self-study courses. These courses are 100% online where students can learn independently at their own pace.

**For information - LearningExperience@asme.org**

## PUBLICATIONS - ASME Digital Collection

- **Journal of Manufacturing Science and Engineering** (link)
- **Journal of Verification, Validation and Uncertainty Quantification** (link)

For learn more, visit: **Find Journals**

## TECHNICAL DIVISIONS

**Manufacturing Engineering Division (MED)** (link)
MED is concerned with the knowledge base of manufacturing sciences and technology and its applications for improved production performance.

Staff contact Brabara Zlatnik