



N626: Introduction to ASME Section VIII Division 1 Pressure Vessel Code

Instructor(s): John Curry

3 Days

Competence Level:
Awareness



Classroom Course

Summary

This three-day course will introduce participants to the ASME Section VIII, Division I Code for Unfired Pressure Vessels. It will provide an understanding of the background of the overall ASME Boiler and Pressure Vessel Code, its organization, and applicability. Basic design rules and formulas, materials, welding, fabrication, testing, certification and documentation will be discussed. An extensive look into pressure vessel metallurgy, steel development and manufacturing will be done. Videos of steel making, clad manufacturing, and pressure vessels in fabrication will be presented. Sample design problems and fabrication issues will be addressed.

Learning Outcomes

Participants will learn to

1. Perform elementary design calculations using ASME Code formulas to determine wall thicknesses.
2. Apply Code rules to design, fabricate, and test pressure vessels.
3. Select suitable steels to deal with low temperature applications, sour services, and corrosive materials.
4. Understand the various welding processes used in today's fabrication facilities.

Duration and Training Method

Three classroom days providing 2.4 CEU (Continuing Education Credits) or 24 PDH (Professional Development Hours)

Who Should Attend

The course is designed for entry level engineers with limited knowledge of the Pressure Vessel Code.

Course Content

Course Agenda

Day One

- History and development of the ASME Boiler and Pressure Vessel Code
- Define a Code vessel.
- List factors that affect the design of a Code vessel.
- Discuss Code formulas and work sample problems
- Nozzle Reinforcement
- Nozzle neck minimum thicknesses
- Construction techniques
- Design of a vessel data sheet
- Metallurgy in the Oil and Gas Industry
- Heat treatment
- Welding processes

Day Two

- Weld seam joint efficiencies
- Non Destructive Testing



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- Hydrostatic Testing
- Documentation and stamping
- Weld seam design
- Welding procedure testing and certification

Day Three

- Non-destructive testing
- Low temperature design and operation
- High Alloy vessels
- Cladding
- Appendices
- National Codes and Standards
- The National Board Inspection Code
- Upgrading Existing Vessels