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Systems

ASME BPVC Section VIII, Division 1 Training

COURSE CONTENT

GET IN TOUCH

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About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

ASME BPVC Section VIII, Division 1 training by Multisoft Systems is designed to provide comprehensive knowledge of the rules and requirements for the design, fabrication, inspection, testing, and certification of pressure vessels. This training focuses on helping engineers, designers, inspectors, and quality professionals understand how to apply ASME code standards to ensure safety, compliance, and reliability in industrial pressure equipment.

Module 1: Introduction to ASME Boiler & Pressure Vessel Code

- ✓ What is the ASME BPVC?
- ✓ Scope and structure of the Code
- ✓ Key objectives of Section VIII
- ✓ History and development of Section VIII

Module 2: Scope, General Requirements & Definitions

- ✓ Scope of Section VIII, Division 1
- ✓ Requirements vs recommendations
- ✓ Key definitions and terminology
- ✓ Interpretation of Code language

Module 3: Materials

- ✓ Material selection criteria
- ✓ Approved materials and certifications
- ✓ Material properties (tensile, yield, toughness)
- ✓ Impact test requirements
- ✓ Material traceability and documentation

Module 4: Design Rules & Stress Analysis

- ✓ Design by formula vs design by analysis
- ✓ Allowable stresses and design stresses
- ✓ Pressure design formulas
- ✓ Stress categories (S, E, P)
- ✓ Nozzle and reinforcement design
- ✓ Load cases (internal/external pressure, weight, wind, seismic)

Module 5: Fabrication & Construction

- ✓ Welding procedures and qualifications
- ✓ Brazing and joining methods
- ✓ Forming and bending
- ✓ Heat treatment requirements (post-weld, stress relief)
- ✓ Fabrication tolerances and tolerances for fit

Module 6: Examination, Inspection & Testing

- ✓ Mandatory examinations (radiography, UT, etc.)
- ✓ Inspection acceptance criteria
- ✓ Nondestructive examination (NDE) methods
    - Radiographic (RT)
    - Ultrasonic (UT)
    - Magnetic Particle (MT)
    - Liquid Penetrant (PT)
- ✓ Hydrostatic testing requirements
- ✓ Test records and certification

Module 7: Joint Efficiency & Welds

- ✓ Weld joint categories
- ✓ Joint efficiency calculations
- ✓ Strength of welded joints
- ✓ Seamless vs welded materials

Module 8: Nozzle Reinforcement & Openings

- ✓ Calculations for nozzle reinforcement

- ✓ Allowable opening sizes
- ✓ Consistency with Code requirements

Module 9: Supports, Attachments & End Closures

- ✓ Support design (legs, skirts, saddles)
- ✓ Attachments and connections
- ✓ Flanges and gasket considerations
- ✓ Heads (elliptical, hemispherical, torispherical)

Module 10: Corrosion Allowance & Design Life

- ✓ Corrosion allowance principles
- ✓ Designing for service life
- ✓ Inspection planning and corrosion monitoring

Module 11: Marking, Documentation & Certification

- ✓ Required nameplate data
- ✓ ASME Certification Marking
- ✓ Pressure test records
- ✓ Manufacturer's Data Report (Form U–1)

Module 12: Appendix & Special Cases

- ✓ Relevant appendices (US, UG, UW)
- ✓ Special design considerations (nozzle load cases, supports, etc.)
- ✓ Cases not covered explicitly by formulae