



2KG TRAINING

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ASME Code, Section VIII, Division 2: ALTERNATIVE RULES FOR DESIGN AND FABRICATION OF PRESSURE VESSELS

Presenter: Kamran Mohktarian

ABOUT THE PRESENTER: KAMRAN MOHKTARIAN



Kamran Mohktarian is a consulting engineer with 38 years of experience in design and fabrication of pressure equipment. He is the Vice-Chairman of Subcommittee VIII of the ASME Code Committee, as well as member and former Chairman of several Subgroups. He is also a member of ASME's Post-Construction Committee and Vice-Chairman of its Subcommittee on Flaw Evaluation. He is the Chairman of the Pressure Vessel Research Council.

Employed by Chicago Bridge & Iron Company from 1964 through 2000. He worked on a variety of assignments related to design, analysis, fabrication, construction, and repair of tanks and pressure vessels and other heavy steel structures. Extensive experience with the ASME Boiler and Pressure Vessel Code and many other U.S. and international Codes and Standards related to tanks and pressure vessels. Familiar with API Standards, particularly with API 620, API 650, API 510, and API 579. Has extensive experience with the use of the National Board Inspection Code for performance of repairs and alterations. He has been a member of ASME Code Committee since 1977. Instructor for all ASME courses, related to Section VIII of the ASME Code. He has performed consulting services related to all aspects of pressure vessel and tank construction.

Number of days: 4

Cost: \$2950

CPD Points: 4

This comprehensive course covers the 2007 Edition of the ASME Code, Section VIII, Division 2. With this Edition, this Code was totally re-written and updated to the latest technology. Some of the design and fabrication rules are totally new and state-of-the-art. Having more refined and more accurate rules, the design margins have been reduced. The use of this new Code could result in considerable savings in materials costs and, in most cases the overall vessel costs. There is a great deal of interest in this international Code and ASME would be promoting its use, worldwide. This course compares the new rules with the old rules of Division 2 and with some other international Codes. The design margins and their effect on required thickness will be explained. The basis and background for the new rules will be discussed. Although the emphasis is on design and analysis rules, all aspects of construction will be covered.

WHO SHOULD ATTEND

- Although some degree of background with design and fabrication of pressure vessels is desirable, no previous experience is required, for attending this course.
- Both the beginners and experienced personnel involved with pressure vessels will benefit from this course.
- Individuals involved with design, analysis, fabrication, purchasing, repair, and inspection of pressure vessels should attend.
- Supervisory and regulatory personnel will also benefit from the course.

COURSE OUTLINE

Introduction to the ASME Boiler & Pressure Vessel Code	Acceptance criteria for design by analysis
Comparison of Divisions 1 and 2 of Section VIII	Stress classification and stress linearization
Theories of failure and design margins of various Codes	Fatigue analysis exemption rules
General requirements of the new Division 2	Fatigue analysis
Responsibilities of various parties	Simplified elastic-plastic analysis
Materials requirements	Fabrication requirements
Material toughness and impact testing	PWHT requirements
General requirements of the new Division 2	Tolerances
Responsibilities of various parties Requirements	NDE requirements
Design rules for internal pressure	Pressure testing
Design for buckling	Documentation and stamping
Design of formed and flat head	Pressure relief requirements
New method for design of openings	Example problems
Design for external loadings	Discussion
Stress analysis methods	

WHAT YOU WILL LEARN

- The background of various Codes and how they compare
- How to prepare User Design Specification
- How to select materials
- What is involved with constructing a Code stamped vessel and who is responsible for what
- How to apply the design rules of the new Division 2
- The background of the new rules
- How to design for piping loads and other external loading and the use of various WRC Bulletins related to the subject
- How to design the most cost effective way
- When to use design by analysis
- Which method of analysis to use and how to apply the new analysis rules
- How to categorize stresses into various classifications and how to linearize stress distributions through thickness
- The various modes of failure and what causes them
- How to exempt a vessel from fatigue analysis and, if required, how to perform fatigue analysis
- How to interpret and apply the fabrication, PWHT, testing and tolerance rules
- The documentation and record keeping requirements
- What is the latest at the ASME Code Committees and what PVRC is working on