

(ME#09) ASME CODE, SECTION VIII, DIVISION 2: ALTERNATIVE RULES FOR DESIGN AND FABRICATION OF PRESSURE VESSELS

Turning GOOD Engineers into GREAT Engineers!

COURSE OVERVIEW

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.

LEARNING APPROACH

Each session will be conducted in lectures, discussion and problem solving format which is designed to provide intensive instruction and guidance on understanding Code requirements. The instructor will be available following each day's session to provide participants with further opportunity for discussion and consideration of specific problems.

INTERESTING TOPICS COVERED DURING THE COURSE

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