

ASME VIII Division 1 "Pressure Vessel Calculation & Design" Code Simplified



INTRODUCTION

This course gives participants coming from Engineering, Manufacturing, Repair and Testing/ Inspection Companies a comprehensive overview about the ASME VIII Division 1 "Pressure Vessel" Code (Design Part) and prepares them to fully comply with Code Requirements. Especially the correct approach during the design stage secures a smooth entry into a pressure equipment manufacturing project. In understanding and interpreting this Design, Manufacturing and Testing Code correctly makes projects execution more efficient and profitable. Avoiding mistakes during the design stage will prevent all involved project parties from unnecessary work afford and cost.

OBJECTIVES

The course provides participants the knowledge necessary to:

- ◆ Understand and Interpret code requirements and effectively use the ASME VIII Division 1 Code (Design Part).
- ◆ Effectively make cross-references to internal and external code requirements.
- ◆ Take all necessary precaution in ordering, basic calculation, fabricating & inspection aspects of pressure vessel in an efficient manner.
- ◆ Carry out overall Review of design Documentations.

SPEAKER'S BACKGROUND

Mr. Dietmar Fischer, is presently the Head of Software Development at Lauterbach Verfahrenstechnik, Germany. With more than 20 years of practical experience, he is specialized in software development in the fields of Pressure Vessel Design. He has also given seminars, workshops and training sessions on PED, Heat Exchanger Design, Pressure Vessel Design and Piping.

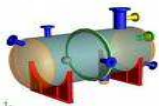
Mr. Lutz Seibt, is presently the Director of IDC Plant Technology Sdn Bhd. He has more than 16 years hands-on inspection experience according to German Pressure Vessel (AD Merckblaetter), Boiler (TRD) and Storage Tanks Codes, Pressure Equipment Directive (PED) and American Codes; 9 years out of it within TUV's International Business Unit in Asia Pacific. He has given training sessions on PED and German Pressure Vessel Standards for instance in Malaysia, Singapore, Korea and China, furthermore for ASME VIII, ASME IX and API 510.

WHO SHOULD JOIN

This class is designed for Design & Engineering Consultants, Design Engineers & QA/QC Inspectors of Pressure Equipment Manufacturers, Inspectors & Engineers of Plant Construction & Inspection Companies, Engineers working in edible oil refineries, chemical, power, industrial & petrochemical plants.

CLASS SIZE

Enrollment is limited to 15 students.



Organized by:

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Ministry of Finance (Reg. No 357-02088676)

Updated on 13 Jan 2010

ASME VIII Division 1

"Pressure Vessel Calculation & Design"

Code Simplified



DAY 1

Welcome & Introduction

1) Introduction into the ASME System

- ◆ Purpose of the Code
- ◆ Scope of the Code

2) Certificates of Authorization

- ◆ Qualification requirements specified by the Code
- ◆ Roles specified by the Code

3) Structure of Section VIII, Division 1

- ◆ Organization of the Code
- ◆ Key terms discussed in the Code

4) Construction Requirements

- ◆ Types of Joints
- ◆ Weld Joint Categories
- ◆ Amount of RT — Full or Spot
- ◆ RT Factors
- ◆ ASME VIII Div. 1 - Basic Calculations & Charts

5) Materials

- ◆ ASME II Part D
- ◆ Material Selection / Material specification / Material Form / Under-tolerance and Corrosion
- ◆ Allowable Stress Values and add. mechanical Properties
- ◆ Low Temperature Criteria / Impact test requirements (MDMT)

DAY 2

1) Shells under internal Pressure

- ◆ Static Head Consideration
- ◆ Cylindrical Shells
- ◆ Spherical Shells
- ◆ Formed Heads
- ◆ Conical Shells with/without knuckles
- ◆ Flat Heads

2) Shells under external Pressure (Vacuum Service)

- ◆ Cylindrical & Spherical Shells and Domed Ends
- ◆ Conical Shells

3) Openings and Reinforcement

- ◆ Types of Openings and Nozzles
- ◆ Calculation Methods
- ◆ Single Openings and Nozzles
- ◆ Nozzle Reinforcement Calculations
- ◆ Large Opening in cylindrical Shell

DAY 3

1) Filled Weld Sizes

2) Bolted Flange Connections

- ◆ Screw— Bolt design and practical
- ◆ Gasket Seating Condition
- ◆ Operating Conditions
- ◆ Bolting
- ◆ Flange Design Calculation Procedure

3) Heat Treatment Requirements

4) Pressure Testing, Stamping, Drawing requirements

- ◆ Pressure Test Cautions & Requirements
- ◆ Hydrotest / Pneumatic Test
- ◆ Requirements of vessel name plate
- ◆ Requirements towards drawings

EXAMINATION (approx. 3 hours)



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