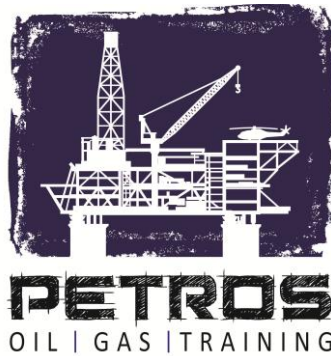


Certificate No : 2025-PTR-EC-PVD-061  
Date : December 16<sup>th</sup> , 2025



## CERTIFICATE OF ACCOMPLISHMENT

This is to certify that  
**NANDANG JATNIKA**  
ID NUMBER : PTR-EC-PVD-061

has completed 32 total hours & finished the Final Project of our E-course

**PRESSURE VESSEL DESIGN  
AS PER ASME VIII DIV.1  
(MANUAL CALCULATION)**

**TRAINER :**  
**Tito Febrianto, S.T - Senior Mechanical Static Engineer**

Held by **PETROS Oil Gas Training** covering the subjects as listed on the back page



Certificate Validation

A handwritten signature in black ink, appearing to read "Heru Prasadja".

**Heru Prasadja, ST**  
Director

# **PRESSURE VESSEL DESIGN AS PER ASME VIII DIV.1 (MANUAL CALCULATION) E-COURSE**

## **Pressure Vessels Introduction**

- Definition, Application
- Standard Reference, and tools
- Scope of design
- Outline E-Course

## **Material Selection and Material Properties Data**

- ASME reference
- Required data
- Material Properties and Specification
- Commonly used Material
- Tensile strength and Yield strength
- Allowable stress
- Dimension tolerances

## **Type of pressure**

- Design Pressure
- Static Pressure
- Maximum Allowable Working Pressure (MAWP)
- Maximum Allowable Pressure (MAP)
- Test Pressure
- Others Pressure

## **Important Assumptions in Designing and Calculation**

- Corrosion Allowances
- Joint Efficiency
- Tolerance

## **Shell Design and Calculation**

- References and Equation
- Symbol and Definition
- Minimum Required Data
- Simple Study Case
- Actual Study Case

## **Head Design Calculation**

- References and Equation
- Types of head
- Symbol and Definition
- Study Case

## **Nozzle Design Calculation**

- References and Equation
- Type of nozzles
- Symbol and Definition
- Nozzle for access opening
- Study Case for Access Opening Nozzles
- Nozzle for others
- Study Case for Other Nozzles

## **Nozzle Reinforcements Design and Calculation**

- References and Equation
- Limit of Reinforcement
- Reinforcement Area
- Symbol and Definition
- Simple Study Case
- Actual Study Case

## **Flanges Design and Selection**

- References
- Type of flanges
- Pressure-Temperature Rating
- Study Case Rating Selection
- Study Case Dimension Selection
- Bolt and Nut Selection

## **Heat Treatment Evaluation**

- References and Equation
- Heat Treatment After Forming Evaluation
- Post Weld Heat Treatment Evaluation

## **Impact Test Evaluation**

- References
- Impact Test Requirements
- Material Classification, Governing Thickness, and MDMT Calculation
- MDMT Reduction
- Study Case

## **Weld Size Evaluation**

- Shell and Head
- Nozzle to Shell or Head (without pad)
- Nozzle to Shell or Head (with pad)
- Nozzle to Flanges

## **MAWP Evaluation and Test Pressure Selection**

- Summary MAWP
- Lowest Stress Ratio Calculation
- Test Pressure Selection

## **Summary Design and Calculation**

**FINAL PROJECT : COMPLETED**