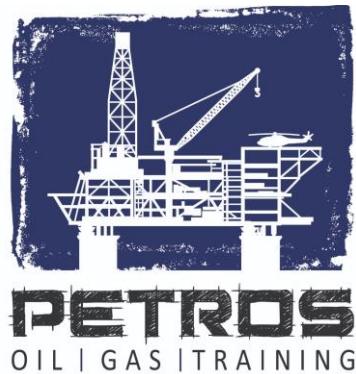


Certificate No : 2023-PTR-STD-032-01

Date : March 8th , 2023



CERTIFICATE OF ACCOMPLISHMENT

This is to certify that
REYNALDI IMAM SATYA
ID NUMBER : PTR-STD-032-01

has completed
**STEEL STRUCTURE DESIGN
FOR OIL GAS/INDUSTRIAL PLANT
TRAINING**

Held by **PETROS OIL GAS TRAINING**, Jakarta
February 4th & 5th , 2023 , covering the subjects as listed on the back page



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

Heru Prasadja, ST
Director

STEEL STRUCTURE DESIGN FOR OIL GAS/INDUSTRIAL PLANT TRAINING

SUBJECTS :

A. INTRODUCTION TO OIL GAS/INDUSTRIAL PLANT PROJECT

- General Layout Plan
- Scope of Work of Civil Engineer in Project
- Technical Specification
- Standard Codes , AISC, UBC, ASCE & SNI

B. STEEL STRUCTURE DESIGN FOR OIL GAS/INDUSTRIAL PLANT (STAAD PRO)

- Structural Modelling for Steel Pipe Rack, 36 m (L) x 5 m (W) x 9 m (H), 2 level
 - Making Generate Model
 - Release & Truss Member
 - Offset Member
 - Support
 - Effective Length
 - Lateral Torsional Buckling
 - K factor
 - Material Properties
- Loadings
 - Pipe Load
 - Equipment Load
 - Live Load
 - Friction Load
 - Anchor Load
 - Wind Load
 - Seismic Load
- Load Combinations
 - Operation Condition
 - Test Condition
- Running Model
- Analysis Result
 - Member Design
 - Deflection
 - Material Take Off
- Design Report

C. FINAL PROJECT

- Steel Pipe Rack, dimension 71 m (L) x 8 m (W) x 9 m (H), 2 level