

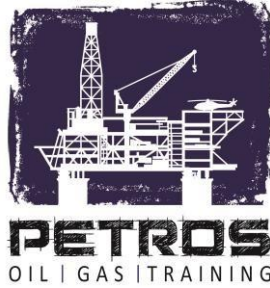


**Kampus  
Merdeka**  
INDONESIA JAYA

**MSIB**  
magang dan studi independen bersertifikat

Certificate No : 2023-PTR-SPRD-MSIB4-G2-06

Date : June 30<sup>th</sup>, 2023



# CERTIFICATE OF ACCOMPLISHMENT

This certificate granted to  
**ARMAN TONAPA**  
MSIB ID : 5601387

For successfully completing the training (210 hours)

## STEEL STRUCTURE DESIGN FOR OIL GAS/INDUSTRIAL PLANT

Held by **PETROS Oil Gas Training &  
Ministry of Education and Culture Research and Technology  
of Republic of Indonesia**  
at **Kampus Merdeka Studi Independen Bersertifikat Program**

And meet all requirements with score:

**83.00**

of 100 points



Certificate Validation  
Valid Through  
30/06/2025

**Petros Oil Gas Training**  
(PT. INDONESIA LEBIH ANDAL PROFESIONAL)

**Heru Prasadia, ST**  
Director

# STEEL STRUCTURE DESIGN FOR OIL GAS/INDUSTRIAL PLANT

## 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