“**ADVANCE PIPELINE STRESS ANALYSIS**”

The Stress Analysis is an Integral part of Safety requirements of Piping and Pipelines. If you are working in Design or Operations domain, don’t you think the knowledge of **Stress Analysis** will give a big leap in your career?

Most of us know ‘***What to do’*** in design but very few know ‘***Why to do* it’**. To get the answer of **‘Why’**; Protton Synergy conduct courses in Piping & Pipeline Stress Analysis.

***ELIGIBILITY:*** Fresh / Experienced - B.E. (Mech / Prod / Chemical), Diploma (Mech)

***COURSE DURATION:*** 10 Days

***SYLLABUS***

**A. Theory:**

1. Introduction to Pipeline Stress Analysis and Role of Stress Engineer.
2. Basic Stress concepts applicable in Stress Analysis.
3. Theories of Failure
4. Interpreting International Piping code equations, ASME B31.4, B31.8, AS-2885.
5. Theory behind load case formation.
6. Support types and their application. Anchor block calculation.
7. Pipe Span Calculation
8. Piping flexibility and Stress Intensification factor
9. Flange leakage analysis calculations
10. Various engineering calculations like Buoyancy, Upheaval buckling, Anchor Flange force, Bend radius calculations.
11. Detail discussion of Buried Pipe behavior.
12. To understand significance of various soil properties like density, cohesive pressure,

friction angle etc.

1. Comparing various methods of analyzing buried pipe including American Lifeline Alliance Method.

**B. Practical:**

1. Introduction to CAESAR II software and its Configuration file etc.
2. Quick and effective techniques to model Buried pipe.
3. Buried Pipe analysis using Peng’s Method.
4. Buried Pipe Analysis using American Lifeline Alliance Method.
5. Buried Pipe analysis using manually calculated soil stiffness.
6. Load case formation
7. Virtual Anchor