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Systems

CAESAR II Training (Pipe Stress Analysis)

COURSE CONTENT

GET IN TOUCH

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About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

The CAESAR II Certification Training, offered by Multisoft Systems, is a specialized program designed to equip participants with the skills and knowledge required for proficient pipe stress analysis.

Module 1: Intergraph CAESAR II – Static Pipe Stress Analysis

- ✓ Piping code theory basics
- ✓ Primary and secondary stresses
- ✓ Creating input data
- ✓ Design for piping loads
- ✓ Modeling of piping systems in CAESAR II
- ✓ Editing the model
- ✓ Supporting of piping systems (support types)
- ✓ Sustained and expansion stresses
- ✓ Design code requirements (e.g. B31.3, B31.1)
- ✓ Assorted modeling, analysis and compliance topics:
- ✓ Resolution of overstress due to thermal expansion
- ✓ Friction effects
- ✓ Adding flexible connections (vessels)
- ✓ Assessing equipment allowable loads
- ✓ Combining piping systems
- ✓ Load case combinations
- ✓ Modeling and analysis of a transmission line
- ✓ Modeling and analysis of a jacketed riser
- ✓ List/edit modeling, jacketed pipe, wind and hydrodynamic loading
- ✓ Static seismic loads
- ✓ Analysis documentation and static analysis workshop
- ✓ Model generation, system evaluation, system re-design

Module 2: Basic Stress Analysis

- ✓ Basic stress concept
- ✓ Role of Stress Engineer
- ✓ Basic Stress Stain Theories
- ✓ Basic Engineering concepts required for stress analysis

- ✓ Theories of failure
- ✓ Concept of stress Range
- ✓ Load Cases
- ✓ Code Compliance for ASME B31.3
- ✓ Different types & functions of Pipe support
- ✓ Design system for Sustain, Expansion & Occasional Loading
- ✓ Nomograph
- ✓ Pipe Rack Loading
- ✓ Support span Calculations
- ✓ Preparing stress Critical line list
- ✓ Stress System formation
- ✓ Overview of Caesar II software

Module 3: Advance Stress Analysis

- ✓ Storage Tank-pump system modeling
- ✓ Column-heat exchanger model
- ✓ WRC-297 nozzle flexibility
- ✓ Theory of load case generation
- ✓ PSV force calculation/ Slug force
- ✓ Critical Systems viz.: Turbine; Pump; Column, Air Fine Cooler etc.
- ✓ Spring design & Modeling in CAESAR II
- ✓ Pump Calculation API 610
- ✓ Equipment Modeling
- ✓ Pipe Rack CAESAR II Model
- ✓ Column Piping System

Module 4: Intergraph CAESAR II – Dynamic Pipe Stress Analysis

- ✓ Theory of dynamic analysis of systems
- ✓ Solving field vibration problems using harmonic analysis

- ✓ Building a dynamic analysis model.
- ✓ Seismic analysis using the response spectrum method.
- ✓ Time history analysis, hammer loads
- ✓ Survey of transient load evaluation through a relief valve example
- ✓ Dynamic analysis workshop: natural frequency calculation, dynamic load
- ✓ factor verification,
- ✓ slug flow modeling
- ✓ Interpreting dynamic analysis results.
- ✓ A survey of approaches to evaluating relief valve discharge.
- ✓ Evaluating transient loads with time history analysis.