

SOLIDWORKS TRAINING COURSES SUMMARY

Exclusive from **IRIS HIGHTECH**, Advance Simulation course has been developed to deliver the power and potential of Engineer through a structured program built upon the industry best practice. Advance Simulation course enables engineers to determine product mechanical resistance, product durability, natural frequencies, and test heat transfer and buckling instabilities and complex loading is also supported. The engineers can learn optimization of the products for weight, vibration, or instability based on a range of physical and geometrical parameters. With tight integration and a consistent user interface across SOLIDWORKS solutions.

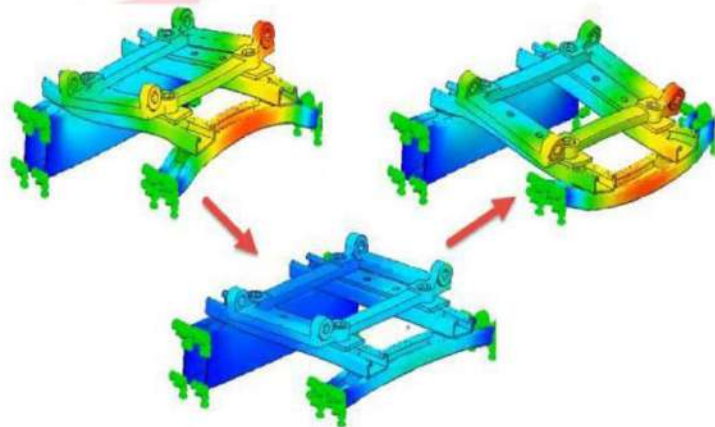
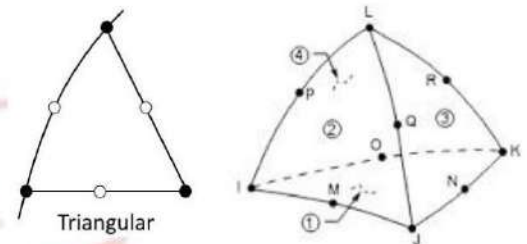
Pre-Requisites

- Knowledge of SOLIDWORKS and basic mechanical engineering concepts is recommended.
- The engineer should have basic knowledge on FEA

SOLIDWORKS Simulation Advance Course Details

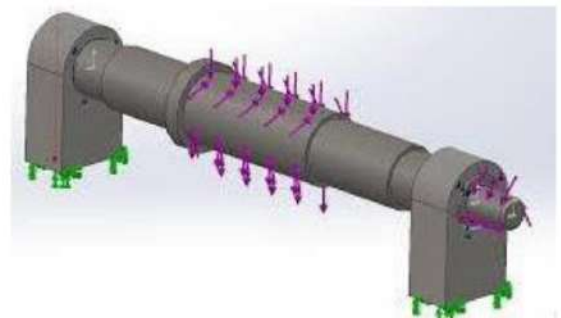
Introduction to SOLIDWORKS Simulation

- What is SOLIDWORKS Simulation?
- What Is Finite Element Analysis?
- Build Mathematical Model
- De-featuring
- Idealization
- Clean-up
- Build Finite Element Model
- Solve Finite Element Model



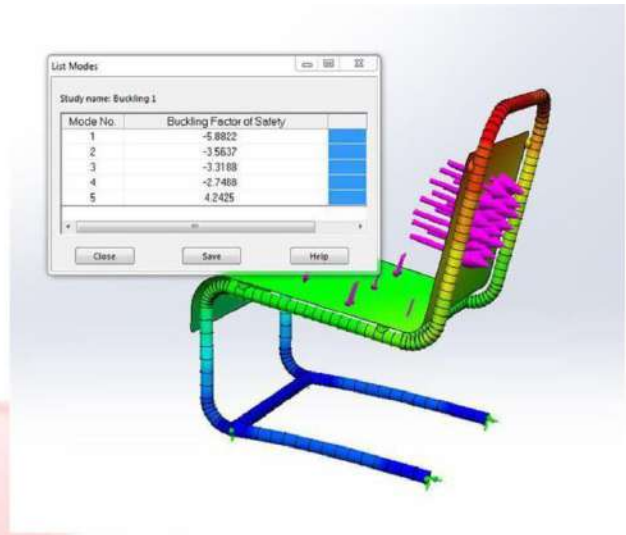
Frequency Analysis of Parts

- Modal Analysis Basics
- Required Material Properties
- Frequencies and Mode Shapes
- Fundamental Frequency
- Case Study: The Tuning Fork
- Project Description
- Stages in the Process
- Frequency Analysis with Supports
- Procedure
- Results & Note
- Frequency Analysis Without Supports
- Rigid Body Modes
- Fundamental Frequency
- Effects of Restraints
- Frequency Analysis with Load
- Effects of Pre-Stress



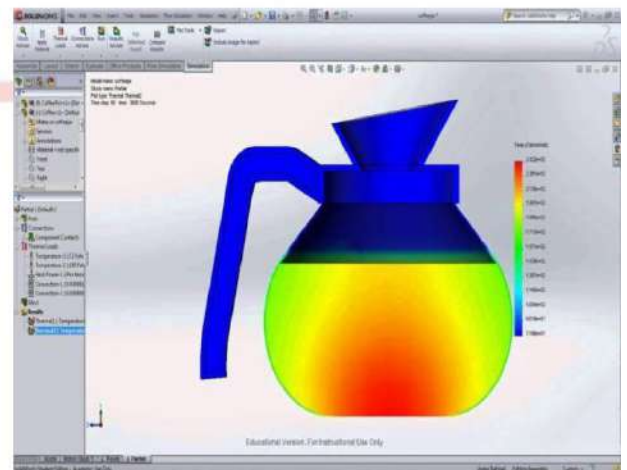
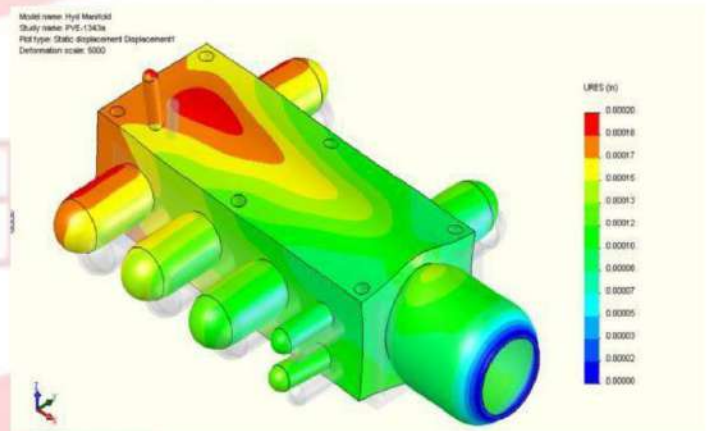
Buckling Analysis

- Linear vs. Nonlinear Buckling Analysis
- Buckling Factor of Safety (BFS)
- Buckling Analysis Considerations
- Case Study: Particle Separator
- Project Description
- Stages in the Process
- Conclusion
- Calculating Buckling Loads



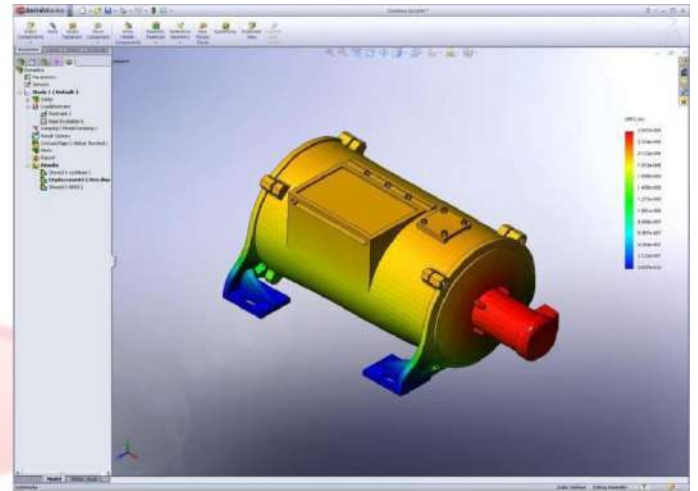
Thermal Analysis

- Thermal Analysis Basics
- Mechanisms of Heat Transfer
- Conduction
- Convection
- Radiation
- Material Properties for Thermal Analysis
- Steady-State Thermal Analysis
- Interfacial Conductance
- Initial Temperature
- Heat Flux
- Heat Flux Results & Heat Power
- Transient Thermal Analysis
- Transient Analysis with Time Varying Load
- Time & Temperature Curves
- Transient Thermal Analysis using a Thermostat



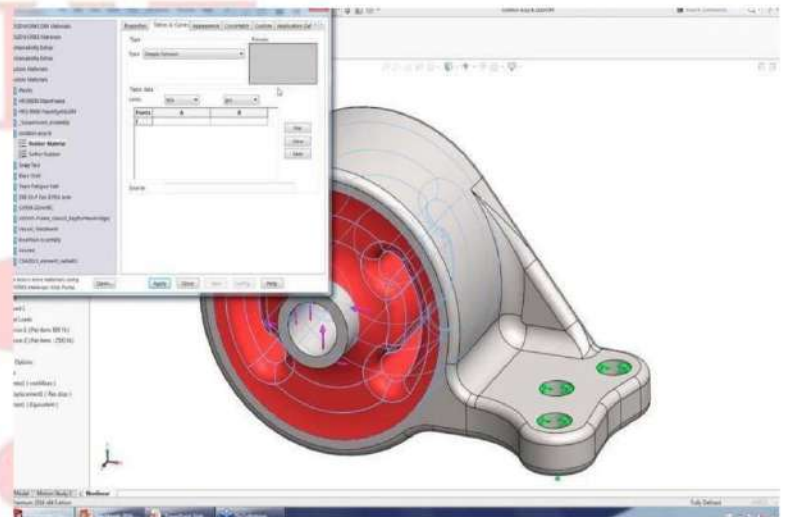
Fatigue Analysis

- Stages of Failure due to Fatigue
- High vs. Low Cycle Fatigue
- S-N Curve
- Fatigue Study
- Derive from Material Elastic Modulus
- Constant Amplitude Events Interaction
- Alternating Stress Computation
- Mean Stress Correction
- Fatigue Strength Reduction Factor
- Damage Factor Plot
- Damage Result Discussion
- Fatigue Study with Dead Load
- Dead Loads in Fatigue Analysis
- Bolts in Fatigue Analysis
- Find Cycle Peaks



Optimization Analysis

- Design Requirements
- Stages in the Process
- Static and Frequency Analyses
- Optimization Analysis
- Design Study
- Optimization Goal
- Design Variable Summary
- Define Constraints
- Constraint Tolerance
- Constraint Definition Procedure
- Post-processing Optimization Results
- Local Trend Graphs



NOTE: For More Details feel free to contact us

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