

	SOLIDWORKS SIMULATION PREMIUM	SOLIDWORKS SIMULATION PROFESSIONAL	SOLIDWORKS SIMULATION STANDARD
Ease of Use/Intuitiveness	X	X	X
Fully Embedded in SOLIDWORKS 3D CAD	X	X	X
Learn Fast: Toolbar Menus, Context Sensitive Right-Mouse Menus, Built-In Tutorials, Searchable Help Documentation	X	X	X
Help Documentation	X	X	X
Get Help Fast: Local and Worldwide Support Services Knowledge Base	X	X	
Concurrent Engineering	X	X	
Fully Embedded in SOLIDWORKS 3D CAD	X	X	X
Full Associativity with 3D Design Changes	X	X	X
Support SOLIDWORKS Configurations	X	X	X
SOLIDWORKS Material Properties Support	X	X	X
Batch Run	X	X	X
Finite Element Analysis	X	X	X
Solid, Shell and Beam modeling	X	X	X
h and p adaptive element type	X	X	X
Mesh control capabilities	X	X	X
Failure Mesh Diagnostic	X	X	X
Simplify model tool for meshing	X	X	X
Customizable Material Library	X	X	X
Contacts and Connectors	X	X	X
Bonded contact condition	X	X	X
Node-to-node, surface-to-surface contact condition	X	X	X
Shrink Fit condition	X	X	X
Virtual Wall condition	X	X	X
Connectors: bolt, spring, pin, elastic support and bearing	X	X	X
Connectors Safety Check	X	X	X
Self-contact condition	X	X	X



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Post Processing	X	X	X
Contour, Iso-Surface, Surface, Section Result Plot	X	X	X
Probe tool	X	X	X
Design Insight	X	X	X
Compare test data	X	X	X
List values on selected entities	X	X	X
Animation of Results	X	X	X
Communication	X	X	X
Customizable simulation report	X	X	X
eDrawings of Simulation results	X	X	X
Linear Static Simulation for Assembly	X	X	X
Analyze the structural behavior of parts and assemblies under loading	X	X	X
Fixtures to prescribe zero or non-zero displacements	X	X	X
Structural loads	X	X	X
Temperature loading	X	X	X
Import Flow/Thermal Effects	X	X	X
Calculation of stress, strain, displacement and FOS	X	X	X
Calculation of reaction forces and moments	X	X	X
Time Based Mechanism Motion Simulation	X	X	
Design Comparison Studies	X	X	X
What-if scenarios based on defined variables (dimensions, mass properties, simulation data)	X	X	X



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Trend Tracker	X	X	X
Detect trends in results from different iterations of a static study	X	X	X
Fatigue Simulation	X	X	X
Analyse the life expectancy of structure under repeated loading	X	X	X
Theory of Cumulative Damage	X	X	X
Outputs: life, damage and factor of safety plots	X	X	X
Detecting Unconstrained Bodies	X	X	X
Equation Driven Results	X	X	X
Design Optimization (based on Simulation data)		X	
Advanced Contacts & Connectors	X	X	
Thermal contact resistance condition	X	X	
Insulated condition	X	X	
Edge and spot weld connector	X	X	
Event-Based Motion Simulation	X	X	
Frequency Simulation	X	X	
Analyze the natural frequencies and mode shape of parts and assemblies	X	X	
Import Flow/Thermal Effects	X		
Load Stiffening	X	X	



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Buckling or Collapse Simulation	X	X	
Analyze slender structure for critical buckling factors and the associated buckling mode shapes	X	X	
Import Flow/Thermal Effects	X	X	
Structural Thermal Simulation	X	X	
Drop Test Simulation	X	X	
Analyse the effect of the impact of a part or an assembly on a target surface	X	X	
Inputs: drop height, gravity, velocity at impact	X	X	
Outputs: stress, displacement, and strains	X	X	
Pressure Vessel Design Simulation	X	X	
Analyze the structural behavior or parts and assemblies under loading	X	X	
Linear combination and square root of the sum of the squares (SRSS)	X	X	
Submodeling Simulation	X	X	
Analyze the structural resistance of a sub model from a main assembly	X	X	
2D Simplification	X	X	
Plane Stress	X	X	
Plane Strain	X	X	
Axisymmetric	X	X	
Load Case Manager	X	X	
Evaluate the effects of various load combinations on your model	X		



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Non Linear Simulation	X		
Transient (time dependent) loads	X		
Large component deformation	X		
Nonlinear materials	X		
Self-contact for nonlinear analysis	X		
Real-time visual updates while solving	X		
Dynamic Simulation	X		
Modal Time History Analysis	X		
Harmonic Analysis	X		
Random Vibration Analysis	X		
Response Spectrum Analysis	X		
Estimate component life based on dynamic loading	X		
Composites Components Simulation	X		

