

# Comparison matrix

	Autodesk® Inventor® Professional 2015	Autodesk® Simulation Mechanical 2015
<b>Autodesk® Nastran® Solver (Optional)</b>		
Linear Static Stress		✓
Modal		✓
Critical Buckling		✓
Steady State Thermal		✓
Thermal Stress		✓
<b>PREPROCESSING</b>		
Direct Modeling with Inventor Fusion		✓
Defeaturing with Inventor Fusion		✓
Inventor Parameters	✓	✓
8,000+ Materials in the Library		✓
2D, Beam and Plate Modeling		✓
Automatic Surface Meshing	✓	✓
Automatic Tetrahedral Meshing	✓	✓
Automatic Hexa-dominant Meshing		✓
Automatic Midplane Meshing		✓
Pressure Vessel Design and Meshing		✓
<b>CONTACT MODELING</b>		
Rigid Bonding	✓	✓
Butt Welds		✓
Surface Contact with Friction		✓
Sliding Contact Without Separation	✓	✓
Separation Contact Without Sliding	✓	✓
Shrink Fit Contact (With or Without Sliding)	✓	✓
Thermal Contact		✓
<b>HEAT TRANSFER</b>		
Steady-state Heat Transfer		✓
Transient Heat Transfer		✓

	Autodesk® Inventor® Professional 2015	Autodesk® Simulation Mechanical 2015
<b>LINEAR STRUCTURAL</b>		
Static Stress	✓	✓
Fatigue		✓
Natural Frequency (Modal)	✓	✓
Modal with Load Stiffening	✓	✓
Response Spectrum		✓
Random Vibration		✓
Frequency Response		✓
Transient Stress		✓
Critical Buckling Load		✓
Dynamic Design Analysis Method		✓
<b>NONLINEAR STRUCTURAL</b>		
Large Displacement		✓
Nonlinear Material Models		✓
Flexible and Rigid Body Motion		✓
Nonlinear Buckling		✓
Dynamic Nonlinear Analysis (MES)		✓
<b>MULTIPHYSICS</b>		
Thermal-structural Coupling		✓
Fluid-thermal Coupling		✓
Fluid-structural Coupling		✓
Electrostatics		✓
Joule-heating Effect		✓
Moldflow Interoperability		✓

	Autodesk® Inventor® Professional 2015	Autodesk® Simulation Mechanical 2015
<b>POST PROCESSING</b>		
Contour Display	✓	✓
Vector Display		✓
Isoline and Isosurface Display		✓
Custom Result Types		✓
Stress Linearization		✓
Slice Planes		✓
Mirror Planes		✓
3D Model Visualization for 2D, Plate, and Beam		✓
Customizable Presentations		✓
Animations	✓	✓
Image and CSV File Export	✓	✓
Custom Reporting (PDF, HTML, Word)	✓	✓
<b>GENERAL</b>		
Parallel Windows Solvers		✓
Autodesk® Vault Data Management PDM Interoperability	✓	✓
Recurdyn Interoperability		✓