

## SOLIDWORKS 3D DESIGN PRODUCT FEATURES

SOLIDWORKS CAD PRODUCT FEATURES	SOLIDWORKS PREMIUM	SOLIDWORKS PROFESSIONAL	SOLIDWORKS STANDARD
▼ PART AND ASSEMBLY MODELLING			
3D Solid Modelling	■	■	■
Conceptual Design	■	■	■
Direct Model Geometry Modification	■	■	■
Large Assembly Design	■	■	■
Advanced Surface Design	■	■	■
Sheet Metal Design	■	■	■
Weldments	■	■	■
Plastic Part Design	■	■	■
Mold Design	■	■	■
Assembly Structure Planning: Treehouse	■	■	■
▼ 2D DRAWINGS			
Automatic Drawing View Creation	■	■	■
Automatic Drawing View Updates	■	■	■
Drafting Standards: ANSI, ISO, DIN, JIS, BSI, GOST, GB	■	■	■
Manual and Automated Dimensioning and Tolerancing	■	■	■
Automatic Bill of Materials (BOM), Exploded Views, Balloon Notes	■	■	■
Hole Tables, Weld Tables, Pipe Bend Tables, Cut Lists	■	■	■
▼ DESIGN REUSE AND AUTOMATION			
Design Automation (DriveWorksXpress)	■	■	■
Part and Assembly Configurations	■	■	■
Reuse 2D and 3D CAD Data	■	■	■
▼ COLLABORATE AND SHARE CAD DATA			
Import/Export Over 30 CAD Formats	■	■	■
2D to 3D CAD Conversion Tools	■	■	■
▼ BASIC ANALYSIS TOOLS			
Part Structural Analysis , Part Environmental Impact Analysis	■	■	■
▼ DESIGN FOR MANUFACTURING			
Rules-Based Manufacturability Checks (DFMXpress)	■	■	■
▼ ADVANCE CAD FILE IMPORT			
Automatic & Interactive Feature Recognition And Conversion	■	■	■
3D Interconnect (Import major CAD formats directly into SOLIDWORKS)	■	■	■
▼ PRODUCTIVITY TOOLS			
Automatic Task Scheduling & Batch Processing	■	■	■
▼ CAD LIBRARIES			
Over One Million Standard Fasteners And Components (Toolbox)	■	■	
Automatic Assembly Of Fasteners And Components. Beam, Bearing & CAM Design Wizard	■	■	
▼ ADVANCED DESIGN FOR MANUFACTURING			
Geometry Check for CAM	■	■	
Thickness Analysis, Draft & Undercut Analysis	■	■	
CAD Standards Checking (Design Checker)	■	■	
▼ DESIGN FOR COST/QUOTING SOLIDWORKS COSTING			
Compare Manufacturing Costs	■	■	
Automated Manufacturing Cost Estimation	■	■	
Output Cost Report	■	■	

SOLIDWORKS CAD PRODUCT FEATURES	SOLIDWORKS PREMIUM	SOLIDWORKS PROFESSIONAL	SOLIDWORKS STANDARD
▼ eDRAWINGS® PROFESSIONAL			
Create and Publish eDrawings Files	■	■	
Enable Markup of eDrawings Files	■	■	
View Assembly Animations	■	■	
Password Protect Intellectual Property	■	■	
▼ ECAD/MCAD COLLABORATION CIRCUITWORKS™			
Import/Export of Printed Circuit Board (PCB) Designs	■	■	
Two-Way Data Exchange: ECAD to MCAD - MCAD to ECAD	■	■	
IDF, ProStep (IDX) or PADS (*.ASC)	■	■	
PCB Outlines, Keep-Out Areas, Maximum Heights	■	■	
▼ SCAN TO 3D REVERSE ENGINEERING			
▼ AUTOMATED TOLERANCE STACKUP ANALYSIS TOLANALYST			
Worst Case and RSS Maximum/Minimum	■	■	
Identify Highest Contributing Tolerances	■	■	
▼ TIME BASED MOTION ANALYSIS			
Kinematic and Dynamic Analysis	■		
Inputs: Forces, Springs, Dampers, Gravity, Contact, Bushings	■		
Outputs: Displacement, Velocities, Accelerations, Body Loads, Joint Forces	■		
▼ STRUCTURAL PART AND ASSEMBLY ANALYSIS			
Inputs: Variable Forces/Pressures, Full Restraint Sets, Connectors, Gravity, Contact, Materials	■		
Outputs: Factor of Safety, Stress, Displacement, Strain	■		
View/Publish Animations, Graphs, Reports	■		
▼ ADVANCED SURFACE FLATTENING			
▼ ROUTING OF PIPES AND TUBES			
Create Detailed Piping Systems	■		
Create Flexible or Rigid Tubing Lines	■		
Customizable Library of Piping Components	■		
Output Tube Bend Data for Manufacturing	■		
Cut Length Calculations Automated for BOM	■		
Automatic Routing Option for Pipes and Tubes	■		
Minimum Bend Radius Check for Tubes	■		
Output of PCF Files for ISOGEN® Piping Software	■		
Rectangular and Other Section Routing	■		
▼ ROUTING OF ELECTRICAL CABLING AND WIRING HARNESSSES			
Create Detailed Electrical Cable and Wiring Harnesses	■		
Run Rigid or Flexible Electrical Conduit Segments	■		
Conduit & Ribbon Cable	■		
Automated Harness Flattening for Manufacturing	■		
BOM and Wire Cut Lists	■		
Automatic Routing Using Imported "From-To" Connection Data	■		
SOLIDWORKS CAM PRODUCT FEATURES	CAM STANDARD (AVAILABLE IN SOLIDWORKS STANDARD, PROFESSIONAL, PREMIUM)	CAM PROFESSIONAL	
2.5 Axis Milling Capabilities	■	■	
Toolpath Simulation	■	■	
Rules-Based Machining	■	■	
Tolerance-Based Machining (TBM) & Knowledge-Based Machining (KBM)	■	■	
Automatic Feature Recognition (AFR)	■	■	
Automate Machine Times	■	■	
High-Speed Machining (HSM)		■	
Turning Capabilities		■	
Indexing		■	

SOLIDWORKS SIMULATION PRODUCT FEATURES	SOLIDWORKS SIMULATION PREMIUM	SOLIDWORKS SIMULATION PROFESSIONAL	SOLIDWORKS SIMULATION STANDARD
Finite Element Analysis	■	■	■
Contacts and Connectors	■	■	■
Post Processing	■	■	■
Linear Static Simulation for Assembly	■	■	■
Time Based Mechanism Motion Simulation	■	■	■
Stress Hot Spot Diagnostics & Design Comparison Study	■	■	■
Trend Tracker	■	■	■
Fatigue Simulation	■	■	■
Design Optimization (Based on Simulation Data)	■	■	
Advanced Contacts & Connectors	■	■	
Event-Based Motion Simulation	■	■	
Frequency Simulation	■	■	
Buckling or Collapse Simulation	■	■	
Structural Thermal Simulation	■	■	
Drop Test Simulation	■	■	
Pressure Vessel Design Simulation	■	■	
Submodelling Simulation	■	■	
2D Simplification	■	■	
Load Case Manager	■	■	
Topology Study	■	■	
Dynamic Simulation	■		
Composites Components Simulation	■		
Non Linear Simulation	■		
SOLIDWORKS FLOW SIMULATION PRODUCT FEATURES	SOLIDWORKS FLOW SIMULATION	SOLIDWORKS FLOW SIMULATION ELECTRONIC COOLING	SOLIDWORKS FLOW SIMULATION HVAC
Ease of Use/Intutiveness	■		
Post Processing	■		
Design Comparison Studies	■		
Fluid Flow Simulation	■		
Rotating Regions	■		
Thermal Fluid Simulation	■		
Free Surface	■		
Noise Prediction	■		
Multi-Parameter Optimization	■		
Two-Phase (Fluid + Particles) Flows	■		
Porous Components	■		
Enriched Library		■	■
Thermal Comfort Parameters Simulation			■
Advanced Radiation Simulation			■
Tracer Study			■
Dedicated Electronic Cooling Simulation		■	
Joule Heating Simulation		■	
SOLIDWORKS PLASTICS PRODUCT FEATURES	SOLIDWORKS PLASTICS PREMIUM	SOLIDWORKS PLASTICS PROFESSIONAL	SOLIDWORKS PLASTICS STANDARD
▼ CAD Integration			
Design Data Reuse & Parallel Computing - (Multi-core)	■	■	■
SOLIDWORKS-Embedded	■	■	■
▼ Plastics Material Database			
4000+ Commercial Plastics	■	■	■
▼ Meshing			
Boundary Mesh (Shell) & Solid 3D Mesh	■	■	■
▼ Simulation Capabilities			
Filling Phase (1st Stage Injection)	■	■	■
Packing Phase (2nd Stage Injection)	■	■	
Instantaneous Filling Pattern Visualizer	■	■	■
Runner Balancing	■	■	■
Sink Mark, Weld lines & Air Traps	■	■	■

SOLIDWORKS PLASTICS PRODUCT FEATURES	SOLIDWORKS PLASTICS PREMIUM	SOLIDWORKS PLASTICS PROFESSIONAL	SOLIDWORKS PLASTICS STANDARD
▼ Mold Geometry Support			
Runner Design Wizard	■	■	
Multi-Cavity Molds	■	■	
▼ Advanced Simulation Capabilities			
Co-Injection	■	■	
Insert Overmolding	■	■	
Cooling Lines Analysis	■		
Warpage Analysis	■		
▼ Results			
Pressure at End of Fill	■	■	■
Temperature at End of Fill	■	■	■
Flow Front Temperature	■	■	■
Sink Mark Profiles	■	■	■
Frozen Layer Fraction at End of Fill	■	■	■
Velocity Vectors	■	■	■
Cycle Time	■	■	■
Part Cooling Time	■	■	
▼ Report Generation			
Microsoft® Word	■	■	■
Microsoft® PowerPoint	■	■	■
HTML	■	■	■
SOLIDWORKS PRODUCT DATA MANAGEMENT FEATURE	SOLIDWORKS MANAGE	SOLIDWORKS PDM PROFESSIONAL	
Secure Access	■		■
Revision Control	■		■
Find and Reuse Design Data	■		■
Integrated eDrawings Preview	■		■
Advanced Search and Favorites	■		■
Multi-Document Preview	■		■
Automated Neutral File Creation	■		■
Custom Configuration	■		■
Automated Data Import and Export	■		■
Serial Number Generators	■		■
Multi Site Access	■		■
Automated Approval Process	■		■
Email Notification	■		■
Project Management, Process Management, Item Management	■		
Dashboards and Reports	■		
SOLIDWORKS ELECTRICAL PRODUCT FEATURES	SOLIDWORKS ELECTRICAL 2D	SOLIDWORKS ELECTRICAL 3D	SOLIDWORKS ELECTRICAL PROFESSIONAL
2D Schematic Tool for Electrical Systems Design			
Single and Multi-line Schematics	■		■
2D Documentation: Drawings, BOMs, Wire Lists, Terminal Strips Lists	■		■
Multi-user & Multi-project Design Capability	■		■
PLC Management: Automation Tools to Integrate PLCs into Your Design	■		■
Data on Over 500,000 Standard Electrical Parts	■		■
Real-time Interaction with 3D Model		■	■
Leverage 2D Schematic Design Data from SOLIDWORKS Electrical in the 3D Model		■	■
Place Electrical Items in 3D to Ensure Fit		■	■
Plan 3D Cable/ Wire/ Harness Paths Through Your Machine and Calculate Lengths		■	■
Harness Design in 3D		■	■
Web Link for More 3D Models		■	■
Single Install and Licensing Step Covering Both Products			■

SOLIDWORKS PCB PRODUCT FEATURES	SOLIDWORKS PCB POWERED BY ALTium	SOLIDWORKS PCB CONNECTOR POWERED BY ALTium
Schematic	■	
ECAD-MCAD Design Collaboration	■	■
Multiuser Environment	■	■
3D	■	■
PCB Integration	■	■
Flex PCB	■	■

  

SOLIDWORKS COMPOSER PRODUCT FEATURES	SOLIDWORKS COMPOSER	SOLIDWORKS COMPOSER ENTERPRISE SYNC	SOLIDWORKS COMPOSER PLAYER
Create Keyframe Animation by Drag-drop Views on Timeline	■		
Update Animation with Latest Design Changes	■		
Static Images (Raster Graphics and Vector Line Art)	■		
Dynamic Avi Videos (Multiple Codecs Supported)	■		
Interactive 3d Documents (as Lightweight Executable)	■		
Standardize Styles for Creating Content (Balloons, Labels, Annotations)	■		
Standardize Default Document Settings Output Qualities, Security Rights	■		
Publish Consistent Quality with Paperspace	■		
Automate Batch Mode Import of 3d Files and Publishing Content		■	■
Automate Document Creation Within Existing Workflow Systems		■	■
Rotate, Zoom, Animate, Measure, View Bom, Section (Rights Controlled by Author)			■
Create Custom Applications To Distribute Internally or Over Website			■

  

SOLIDWORKS INSPECTION PRODUCT FEATURES	SOLIDWORKS INSPECTION PROFESSIONAL	SOLIDWORKS INSPECTION STANDARD
▼ SOLIDWORKS INSPECTION ADDIN		
SOLIDWORKS Embedded Add-In	■	■
SOLIDWORKS Drawing Native File Support	■	■
▼ SOLIDWORKS INSPECTION STANDALONE APPLICATION		
PDF and TIFF Files Support (.pdf, .tif, .tiff)	■	■
2D CAD Files Support (*.dwg, *.CATDrawing, *.prt)	■	■
3D CAD Files Support (*.CATPart, *.CATProduct, *.prt, *.asm, *.3dxml)	■	■
Optical Character Recognition (OCR)	■	■
Customizable Recognition Engine	■	■
Nominal Value and Plus/Minus Tolerances	■	■
Bilateral Default Tolerances	■	■
Upper and Lower Limits Calculation	■	■
Multiple Drawings per Project	■	■
Compare Drawing Revisions	■	■
ExtractionXpert®	■	■
Smart Extract	■	■
▼ QUALITY SYSTEMS INTEGRATION		
Export to XML	■	■
▼ REPORT GENERATION		
Export Ballooned Drawing to PDF	■	■
Export Inspection Report to Microsoft® Excel®	■	■
Pre-defined Industry Standard Templates (AS9102, PPAP, etc.)	■	■
▼ RESULTS INPUT		
Characteristics Measurements Input	■	
Digital Measuring Tools Support (Digital Caliper, etc.)	■	
CMM Data Import (PC-DMIS, Calypso, Faro CAM2, etc.)	■	
Graphical Pass/Fail Status	■	

SOLIDWORKS MBD PRODUCT FEATURES	SOLIDWORKS MBD STANDARD	SOLIDWORKS STANDARD
▼ 3D PRODUCT MANUFACTURING INFORMATION (PMI) DEFINITION		
Intelligent Dimensioning, Tolerancing, and Annotation (DimXpert) Freestyle Dimensioning, Tolerancing, and Annotation (Reference Dimensions) Comprehensive Bill of Materials (BOM)	■	■
DimXpert in Assembly	■	
▼ 3D PMI ORGANIZATION		
3D Annotation Views	■	■
Automatic Show and Hide Annotations as a Model Rotates	■	
3D Views Capturing Annotation Views, Configurations, Display States, Section View, and Other View Settings	■	
Compare 3D Annotation Differences Between Revisions	■	
3D Model Break Views	■	
▼ 3D OUTPUT		
Publish to eDrawings	■	■
3D Output Template Customization	■	■
3D PDF with 3D PMI, Views, and Meta Properties	■	
Export Step 242 With Software Readable Annotations	■	
SOLIDWORKS VISUALIZE PRODUCT FEATURES	VISUALIZE PROFESSIONAL	VISUALIZE STANDARD (SOLIDWORKS PREMIUM & PROFESSIONAL)
Graphics Processing Unit (GPU) Accelerated Rendering	■	■
Hybrid Render Mode	■	■
Physically-Based Raytracing	■	■
CAD and Graphic File Support	■	■
Decals (Interactive Stickers)	■	■
Intuitive User Interface	■	■
Advanced Material Support with NVIDIA MDL and PBR	■	■
Queue Rendering Manager	■	
Visualize Boost Support	■	
Full Animation Suite	■	
Create VR Content	■	
Video Decals	■	
Integrated Physics Engine	■	
Vehicle Driving Simulator	■	
SOLIDWORKS SELL - eCOMMERCE FEATURES		
Full Cloud Implementation	■	
Supports eCommerce Platforms	■	
Bill of Materials (BOM) Created on the Fly	■	
Multi-CAD Environment	■	