SolidWorks Plastics

	Feature	SOLIDWORKS Plastics Standard	SOLIDWORKS Plastics Professional	SOLIDWORKS Plastics Premium
1	**Ease of Use** SOLIDWORKS Plastics is fully embedded in SOLIDWORKS 3D CAD for ease of use and data integrity. Using the same user interface (UI) as SOLIDWORKS in toolbars, menus, and context-sensitive right-click menus ensures rapid familiarization. Built-in tutorials and searchable online help aid learning and troubleshooting.	✓	✓	✓
2	**Design Data Reuse** SOLIDWORKS Plastics supports SOLIDWORKS materials and configurations for easy analysis of multiple loads and product configurations.	✓	✓	✓
3	**Materials Database** With 4,000+ commercial thermoplastic grades, you can browse and select the desired from the customizable built-in material library.	✓	✓	✓
4	**Meshing** SOLIDWORKS Plastics includes these meshing features: Wizard for mesh generation and analysis setup Automatic Mesh Local Mesh Refinement Global Mesh Refinement Boundary Mesh (Shell) Solid 3D mesh	✓	✓	✓
5	**Parallel Computing (Multi-core)** The 3D Solver benefits from a multi-core CPU (multiple threads).	✓	✓	✓
6	**Filling Phase (1st Stage Injection)** Predicts how material fills the cavity. Results include distributions of pressure and temperature within the cavity, and detection of potential short shots and weld lines.	✓	✓	✓
7	**Instantaneous Fill Time Plot** Predicts the plastic flow pattern through the cavity at the end of fill.	✓	✓	✓
8	**Sink Mark Analysis** Predicts the depth of sink marks after the part has been ejected and cooled to room temperature.	✓	✓	✓
9	**eDrawings Support** Results can be exported to eDrawing®	✓	✓	✓
10	**Fill Time** Time needed to fill the whole mold.	✓	✓	✓
11	**Ease of Fill** Displays the quality of the injection process with 'confidence of fill' legend	✓	✓	✓
12	**Results Adviser**	✓	✓	✓

	User assistant for interpreting results.			
13	Pressure at End of Fill Displays the maximum pressure to fill the cavity.	✓	✓	✓
14	Flow Front Temperature Displays the melt front temperature history.	✓	✓	✓
15	Temperature at End of Fill Displays the Cavity Temperature field at the end of fill	✓	✓	✓
16	Shear Rate Displays the shear rate reached at the end of fill to check the injection process quality.	✓	✓	✓
17	Cooling Time Estimates cooling time at fill time analysis.	✓	✓	✓
18	Weld Lines Displays weld lines formed at locations of the part where two (or multiple) melt fronts meet.	✓	✓	✓
19	Air Traps Shows the location where high-pressure air may be trapped inside the cavity.	✓	✓	✓
20	Sink Marks Displays the location of sink marks	✓	✓	✓
21	Frozen Layer Fraction at End of Fill Displays the fraction of frozen material into the part at end of fill.	✓	✓	✓
22	Clamp Force Displays the minimum clamp force for the current injection process.	✓	✓	✓
23	Cycle Time Displays the cycle time for the current injection process.	✓	✓	✓
24	Symmetry Analysis Avoid simulating both cavities in a symmetrical mold layout, saving computer time for the simulation.		✓	✓
25	Packing Phase (2nd Stage Injection) Evaluates the material freezing process in the cavity. Predicts the temperature to evaluate hot spots, gate freeze, and cycle time. Distributions of pressure, stress, and shrinkage results are also available.		✓	✓
26	Runner Balancing Determines the runner parameters to balance filling between parts.		✓	✓
27	Runner Design Wizard Automates the process of creating common flow control devices and components such as sprues, runners, and gates.		✓	✓
28	Sprues and Runners Quickly and easily simulate the impact of the sprues and runners layout.		✓	✓
29	Hot and Cold Runners Hot runners are initially filled with hot polymer at the start of the filling simulation.		✓	✓

30	Multi-cavity Molds Simulates multiple cavities of the same part in the same mold.		✓	✓
31	Family Molds Simulates a set of different cavities parts in the same mold.		✓	✓
32	Mold Inserts Include the impact of mold inserts on the simulation		✓	✓
33	Volumetric Shrinkage Displays volumetric shrinkage distribution at the end of fill or pack.		✓	✓
34	Density at End of Pack Displays density distribution at post-filling end to check the pack phase quality.		✓	✓
35	Exports STL, NASTRAN Enables you to export part geometry in STL or NASTRAN formats		✓	✓
36	Export with Mechanical Properties ABAQUS®, ANSYS, DigiMat® Exports mesh, residual stress, fiber orientation and material data to run non-linear analysis.		✓	✓
37	Cooling Lines Simulates the coolant flowing inside for the mold cooling analysis.			✓
38	Baffles and Bubblers Specific cooling line for narrow channel into the cavity.			✓
39	Conformal Cooling Channels Cooling passageway follows the shape or profile of the mold core or cavity to perform rapid uniform cooling process.			✓
40	Runner Domain Category Domain category assigned to the runner allows easy selection for runner's conditions.			✓
41	Sink Mark Profiles Displays the location of sink marks and their depth.			✓
42	Mold Temperature at Cooling End Displays the mold temperature distribution at cooling end.			✓
43	Displacement Due to Residual Stress Displays the displacement distribution due to in-mold stress.			✓