

SOLIDWORKS PLASTICS

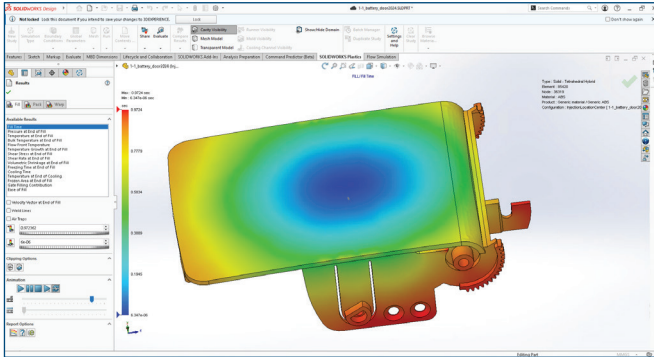
ELIMINATE COSTLY MOLD REWORK, IMPROVE PART QUALITY, AND DECREASE TIME TO MARKET WITH SOLIDWORKS® PLASTICS

For designers of plastic parts or injection molds, SOLIDWORKS Plastics will help you predict and avoid manufacturing defects during the earliest stages of part and mold design, saving you time and money further down the line.

OVERVIEW

SOLIDWORKS Plastics offers computer-aided engineering (CAE) simulation tools that predict how melted plastic flows during the injection molding process – the manufacturing method used to produce more than 80% of all plastics products. The ability to predict how the plastic will flow allows designers to foresee manufacturing-related defects. By being able to predict these defects, users can change mold geometry, processing conditions, or the plastic material used, to minimize potential defects, thus saving energy, natural resources, time, and money.

KEY CAPABILITIES



Predict how plastic flows through your mold to identify defects before production.

Integrated: Speed workflow with full SOLIDWORKS support

- Work with native SOLIDWORKS files.
- Associate with SOLIDWORKS geometry.
- Design right in SOLIDWORKS 3D CAD.

Comprehensive: Tackle every analysis and meshing need

- Generate meshes automatically or follow guided creation and analysis workflows.
- Refine meshes globally or locally for greater precision.
- Build solid 3D meshes and boundary (shell) meshes for complete model coverage.

Versatile: Get broad mold geometry support

- Design sprues, runners, and hot/cold runner systems.
- Support multi-cavity and family mold layouts.
- Optimize cooling with cooling lines, baffles, bubblers, and conformal channels.
- Simulate mold inserts and cyclic/symmetric cavity runner layouts.

Fast: Save time with enhanced features

- Optimize mold design early to reduce rework and hidden manufacturing costs.
- Minimize defects and scrap through early manufacturability analysis.
- Accelerate time to market with predictive validation and automated reporting and collaboration.

Reliable: Get accurate results with CAE simulation

- Analyze fill time, pressure, temperature, cooling, and cycle time.
- Predict manufacturing defects such as weld lines, air traps, sink marks, shrinkage, and warpage.
- Share results with eDrawings® and export to Abaqus®, Ansys®, and Digimat®.

Extensive database: Enjoy a wide range of available plastics materials

- Select from thermoplastic, thermoset, mold material, and coolant databases.
- Customize your material database.

Powerful: Simulate every phase of the molding process

- Model the filling phase to track material flow through the mold.
- Analyze packing phase behavior to optimize shrinkage, pressure, and density.
- Evaluate cooling performance to minimize cycle time.
- Predict warpage to ensure dimensional accuracy in the final part.

Advanced: Work confidently with complex designs

- Simulate advanced molding processes including overmolding, co-injection, and gas- and water-assisted molding.
- Analyze fiber orientation, birefringence, and venting performance.
- Support valve gates and mold insert simulations.
- Optimize cooling with conformal cooling analysis.

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