

**Autodesk®**  
Moldflow® Adviser

Validate designs quickly.



# Put Plastics Simulation on Every Designer's Desktop

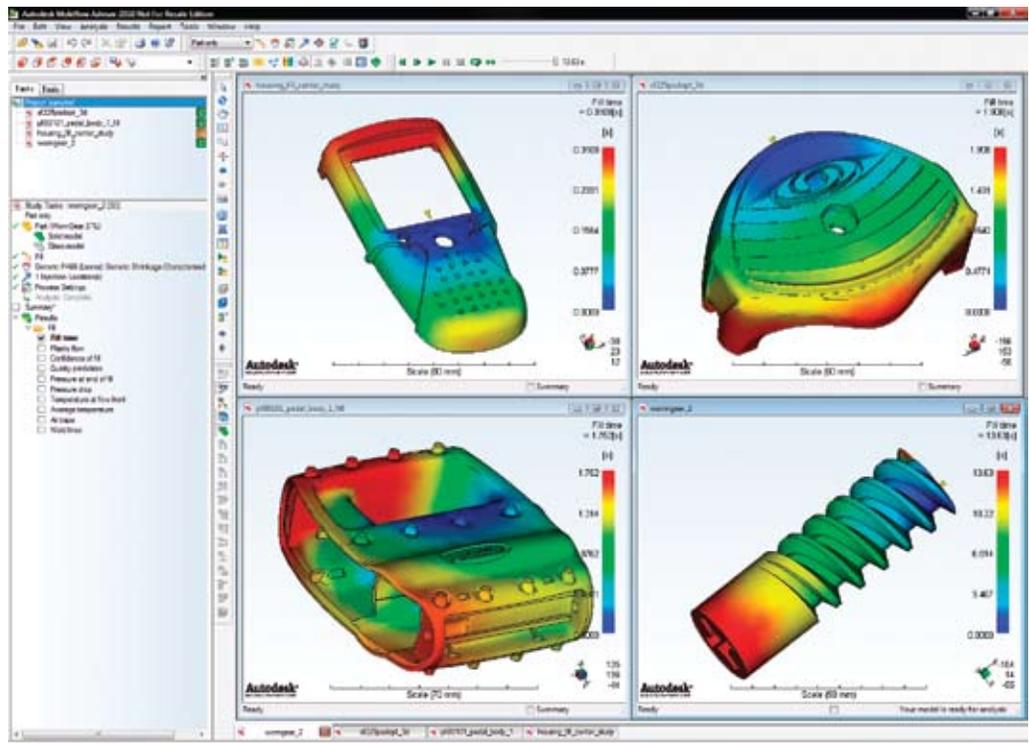
Today, most manufacturing processes include the production of injection-molded plastic parts, a complicated process that can lead to unexpected delays and increased costs. More designers than ever are seeking the ability to confirm the manufacturability of plastic parts and solve crucial manufacturing issues.

## Contents

Put Plastics Simulation on Every Designer's Desktop .....	1
Analysis Technology .....	3
Results Interpretation and Communication .....	4
Plastics Flow Simulation .....	5
Feed System Design .....	6
Mold Cooling and Structural Integrity Simulation .....	7
Productivity Features and CAD Connectivity Products .....	8
Autodesk Moldflow Adviser Product Comparison Chart .....	9

Autodesk® Moldflow® Adviser software, part of the Autodesk® solution for Digital Prototyping, provides easy-to-use tools that help you to simulate and optimize your part, mold, and tool designs long before manufacturing begins. By simulating the injection molding process using a digital prototype, you can help reduce the number of physical prototypes required to perfect a design and get your products to market faster.

Autodesk Moldflow Adviser simplifies plastics injection molding simulation and helps to optimize mold features such as gates, runners, and cavity layouts. It guides designers through analysis setup and results interpretation, enabling them to see how changes to wall thickness, gate locations, material, and geometry affect manufacturability. By resolving and clearly communicating potential problems with injection molding process simulation, Autodesk Moldflow Adviser enables any engineer to confidently design injection-molded plastic parts.



# Visualize, resolve, and communicate problems early in the design phase with Autodesk Moldflow Adviser.

## Make Decisions Quickly

Because it answers basic manufacturing questions such as “will the part fill?”, and with its intuitive design workflow, Autodesk Moldflow Adviser brings plastics process simulation to you in a way that is both natural for experienced users and supportive for novices. Autodesk Moldflow Adviser is designed for ease of use, allowing non-specialist users to analyze design iterations at the earliest stages of development - when the cost of change is low and the impact on manufacturability is high. Wizard-based features guide you through material selection, analysis setup, and results interpretation, so you can deliver valuable results quickly and make critical design decisions faster.

## Save Time

Because Autodesk Moldflow Adviser software is part of the Autodesk solution for Digital Prototyping, you can analyze any model created in Autodesk® Inventor® software. It also includes functionality that allows you to import and analyze models created in other 3D CAD software packages. The ability to directly import 3D models will help save hours—even days—because you don’t have to prepare models for analysis. As soon as you build a 3D model in Autodesk Inventor, it’s ready for analysis. And, to produce reliable, accurate results, Moldflow Adviser even scans imported geometry, automatically detecting and fixing defects that can occur when the model is translated from CAD software.

## Avoid Rework

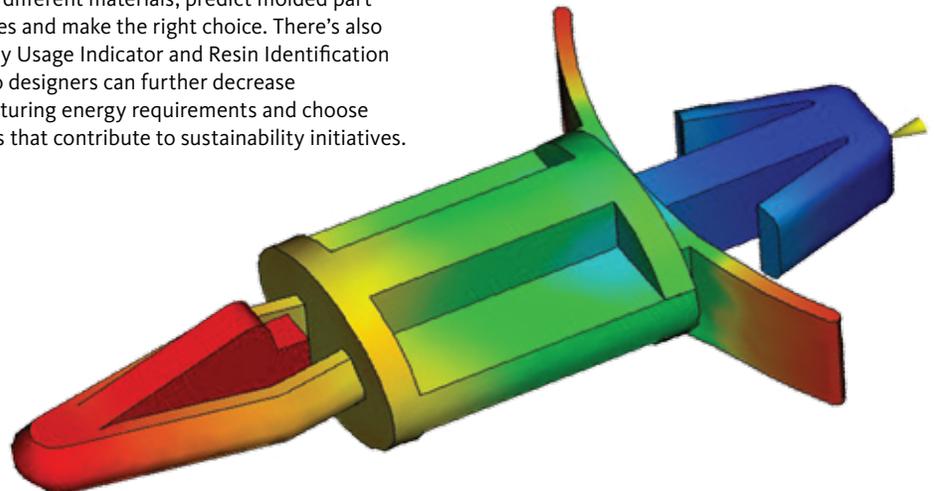
Autodesk Moldflow Adviser products use solver technology that is unbeatable in providing excellent correlation between analysis predictions and real-life molding results. By helping to accurately simulate flow behavior through the mold, Autodesk Moldflow Adviser gives designers and engineers the ability to predict and pinpoint potential part defects, helping them to optimize their designs, improve quality, and avoid manufacturing delays. In this way, Autodesk Moldflow Adviser helps eliminate the need for time-consuming and potentially costly tooling rework or product redesign.

## Choose the Right Materials

The choice of materials for use in plastics simulation can have a critical impact on the performance of the end-use application. Autodesk Moldflow Adviser features the world’s largest plastic materials database of its kind. With access to more than 8,000 grades of commercial plastics and the most up-to-date, accurate material data, you have the ability to evaluate different materials, predict molded part properties and make the right choice. There’s also an Energy Usage Indicator and Resin Identification Codes so designers can further decrease manufacturing energy requirements and choose materials that contribute to sustainability initiatives.

## Improve Collaboration

Autodesk Moldflow Adviser enables engineers to find the quickest path from problem to solution by providing them with results-specific design advice to interpret the results of their simulation analyses. Using the automatic documentation tools, your analysis results can be prepared using standardized formats and shared through the web or with common office applications. Create and share HTML, Microsoft® Word, and PowerPoint® documents to promote collaboration, streamline development, and communicate valuable simulation results to other members of your design-to-manufacturing team.



# Analysis Technology

Get unmatched geometry support for thin-walled parts as well as thick and solid applications.

## 3D Simulation

Perform true 3D simulations using a proven technique based on a solid, tetrahedral finite-element volume mesh. 3D meshing is ideal for electrical connectors, thick structural components, and geometries with extreme thickness variations.

## Dual Domain™

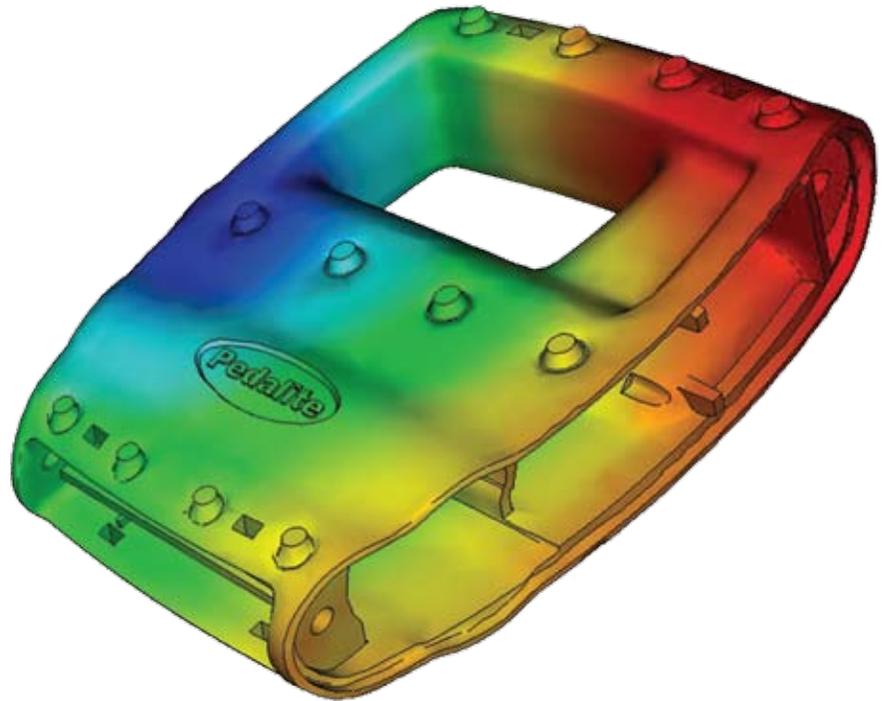
Analyze solid models of thin-walled parts using patented Dual Domain technology. Work directly from 3D solid CAD models without creating an analysis model—so you can analyze more design iterations and perform more in-depth analyses.

## Optimal Technology Solution

Autodesk Moldflow Adviser helps you choose the optimal solution for your design. During the model import process, Autodesk Moldflow Adviser automatically evaluates geometry to determine which analysis technology—3D or Dual Domain—is best for a given part.

## Automatic Error Checking and Repair

To produce reliable, accurate results, Autodesk Moldflow Adviser scans imported geometry, automatically detecting and fixing defects that can occur when the model is translated from CAD software.



# Results Interpretation and Communication

Find the quickest path from problem to solution with results-specific design advice, and use the automatic reporting tools to share the results with all stakeholders.

## Dynamic Help

Get context-sensitive help on a results plot, including information on what to look for and how to correct typical problems.

## Results Adviser

Query regions of a model to identify primary causes of short shots and poor part or cooling quality then get suggestions on how to make corrections to the part, mold, or process.

## HTML Reporting

Use the report generation wizard to create web-based reports. Quickly and easily share analysis results with customers, vendors, and team members.

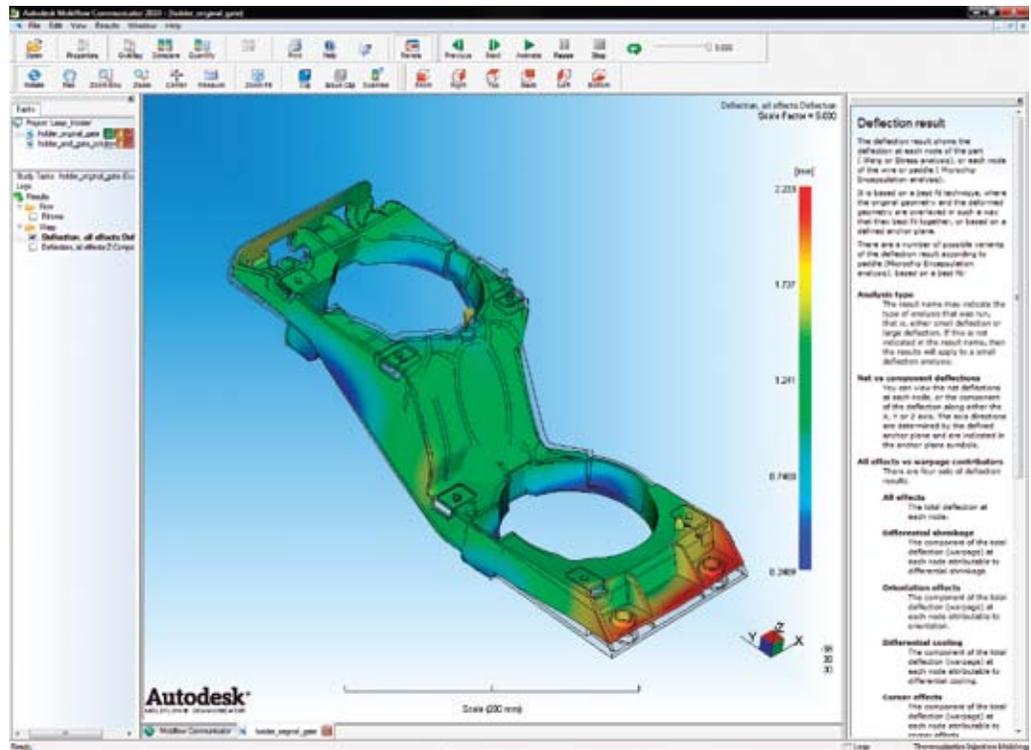


## Microsoft Office Word and PowerPoint

Easily export results and images to Microsoft® Office 2007 (Word and PowerPoint®) for use in formal reports and presentations.

## Autodesk Moldflow Communicator

Collaborate with other designers and suppliers by exporting results from Autodesk Moldflow Adviser into Autodesk® Moldflow® Communicator, a free product that lets stakeholders easily visualize, quantify, and compare analysis results.



# Plastics Flow Simulation

Simulate flow behavior through a mold to help eliminate potential manufacturing problems and optimize part and mold designs.

## Part Defects Identification

Pinpoint the severity and location of potential manufacturing defects such as weld lines, air traps, and sink marks. Then, make design changes to avoid these problems.

## Thermoplastic Filling

Simulate the filling phase of the injection molding process to predict the plastics melt flow pattern. Ensure that mold cavities fill uniformly, avoid short shots, and eliminate, minimize or reposition weld lines and air traps.

## Thermoplastic Packing

The packing phase of the process, also referred to as the second-stage or pressure-controlled phase, has a significant effect on molded part quality. Moldflow Adviser can be used to optimize the overall packing profile and visualize the magnitude and distribution of volumetric shrinkage to minimize part warpage and eliminate defects such as sink marks.

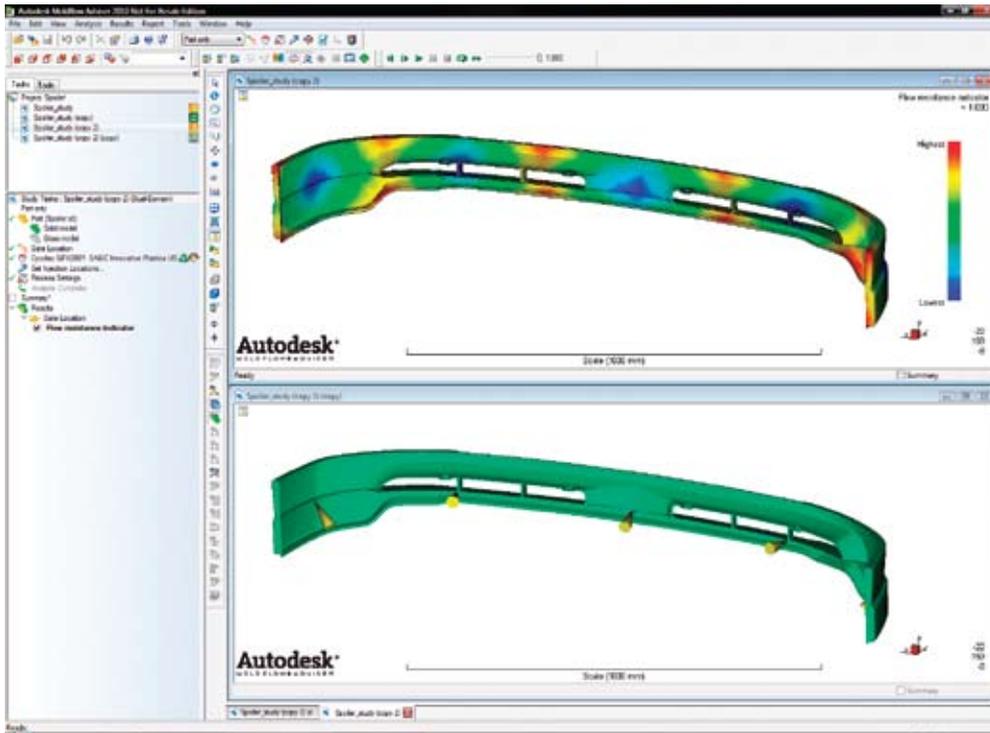
## Molding Window

Quickly evaluate multiple gating schemes, part thicknesses, and materials to determine recommended molding process parameters.



# Feed System Design

Quickly and easily model and optimize all types of hot and cold runner systems and gating configurations.



## Gate Location

Automatically identify up to 10 gate locations at once. You can minimize injection pressure and choose to exclude specific regions of the geometry when determining gate location.

## Runner Design Wizard

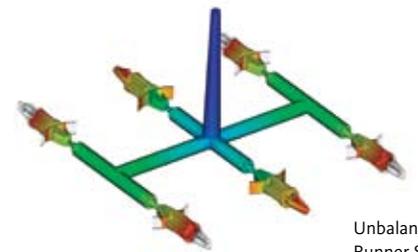
Get guided help creating runners. Autodesk Moldflow Adviser creates a feed system based on your inputs for layout, size, and type of components—this feed system includes sprue, runners, and gates.

## Centerline Import/Export

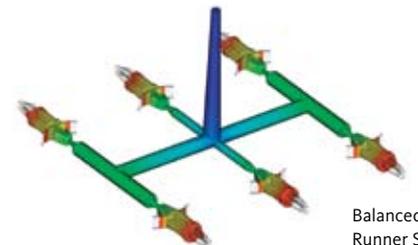
Import and export feed system centerlines between your CAD software and Autodesk Moldflow Adviser, decreasing modeling time and avoiding errors in runner placement.

## Automatic Runner Balancing

Use automatic runner balancing analysis to size the sprue, runners, and gates and achieve balanced flow in multi-cavity and family mold layouts.



Unbalanced Runner System



Balanced Runner System

# Mold Cooling and Structural Integrity Simulation

Improve molded part surface appearance, minimize part warpage, reduce overall cycle times, control shrinkage and warpage, and test the structural integrity of the molded product.

## Cooling System Design Wizard

Use a step-by-step wizard to quickly create mold cooling systems by specifying the layout, size, and type of cooling components in your mold.

## Cooling Quality Analysis

Find out which areas in a part aren't cooling effectively, and then alter geometry to avoid non-uniform cooling, a major cause of part warpage.

## Cooling System Analysis

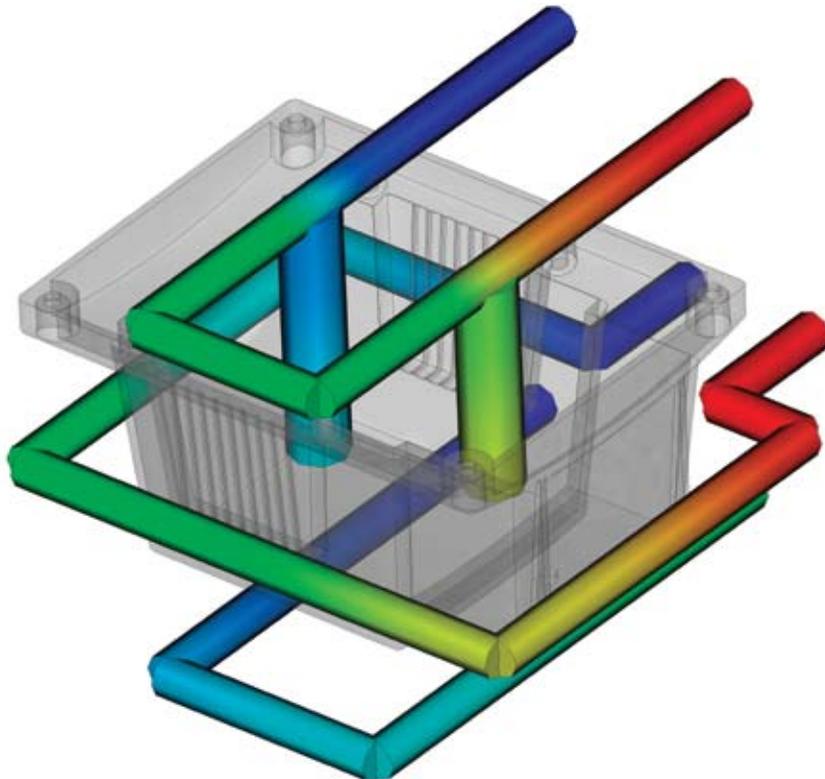
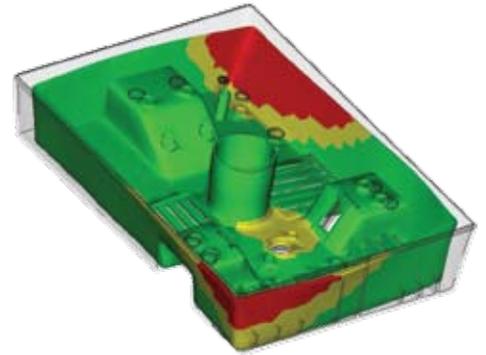
Optimize mold and cooling circuit designs to achieve uniform part cooling, minimize cycle times, eliminate part warpage due to cooling factors, and decrease overall manufacturing costs.

## Warpage Prediction

Uncover and isolate the primary causes of warpage resulting from process-induced stresses. Identify where warp is likely to occur and optimize part design, mold design, and material choice to avoid molded part deformation.

## Autodesk Moldflow Structural Alliance

Export mechanical property data from Autodesk Moldflow Adviser to ANSYS® or ABAQUS® structural analysis software to account for the effects of processing on the performance of fiber-filled injection-molded plastic parts when subjected to service loading.



# Productivity Features and CAD Connectivity Products

Take advantage of features such as customizable workspaces, a materials database, and a cost adviser to further boost productivity, and, explore complementary products that offer native CAD model translation and analysis model optimization.

## Workspaces

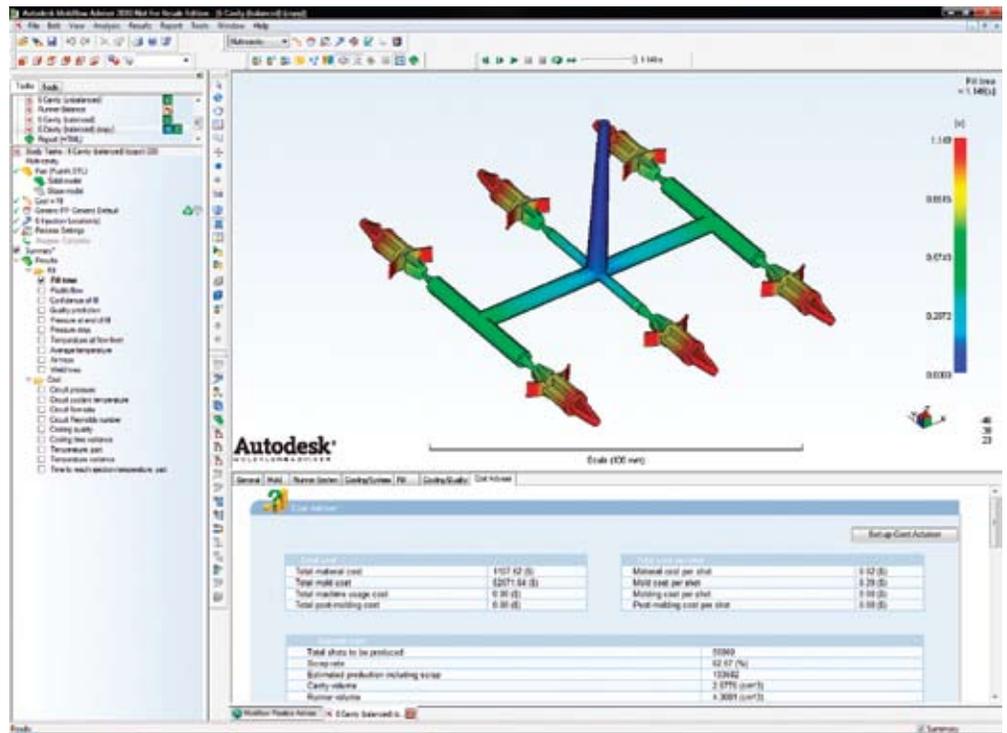
Customize the user interface and application features to meet the needs of any user. Setup profiles for novice users to guide them through the analysis process and identify common problems or define profiles to give additional functionality and flexibility to more experienced users.

## Materials Database

The Autodesk Moldflow materials database contains grade-specific information on more than 8,000 plastics materials, all characterized for use in plastics injection molding simulation.

## Cost Adviser

Understand the drivers of part cost and use this information to minimize those costs. Moldflow Adviser helps you estimate product cost based on material choice, cycle time, post-molding operations, and fixed costs.



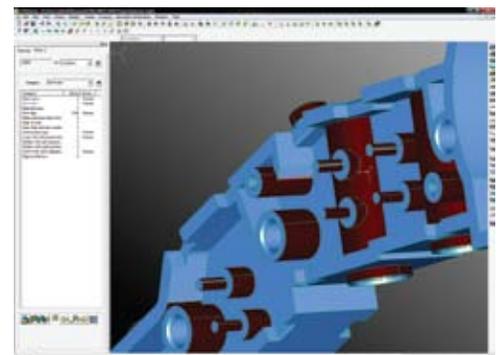
## Autodesk® Moldflow® Design Link

Directly import solid geometry data from Parasolid®-based CAD systems, Pro/ENGINEER®, and CATIA® V5.



## Autodesk® Moldflow® CAD Doctor

Check, correct, heal, and simplify solid models imported from 3D CAD systems in preparation for analysis using Autodesk Moldflow Adviser.



# Autodesk Moldflow Adviser Product Comparison Chart

**Autodesk Moldflow Adviser Product Line**

With different product configurations that offer specific levels of functionality, Autodesk is dedicated to helping plastics design engineers, mold makers and molding professionals create accurate digital prototypes and bring better products to market at less cost.

	Autodesk Moldflow Adviser Design	Autodesk Moldflow Adviser Manufacturing	Autodesk Moldflow Adviser Advanced
<b>Geometry Support</b>			
Dual Domain	•	•	•
Advanced 3D		•	•
<b>Simulation Capabilities</b>			
Thermoplastic Filling Analysis	•	•	•
Gate Location Analysis	•	•	•
Molding Window Analysis	•	•	•
Sink Mark Analysis	•	•	•
Geometry Analysis	•	•	•
Cooling Quality Analysis	•	•	•
Runner Balancing Analysis		•	•
Runner Adviser Analysis		•	•
Cooling Analysis			•
Packing Analysis			•
Warpage Analysis			•
Autodesk® Moldflow® Structural Alliance			•

