SOLIDWORKS **PLASTICS 2012**

Optimize the design of plastic parts and injection molds

ELIMINATE SINK MARKS

OPTIMIZE PART DESIGNS

MINIMIZE COMMON INJECTION MOLDING DEFECTS

Plastic Cordless Drill Housing | Designed in SolidWorks
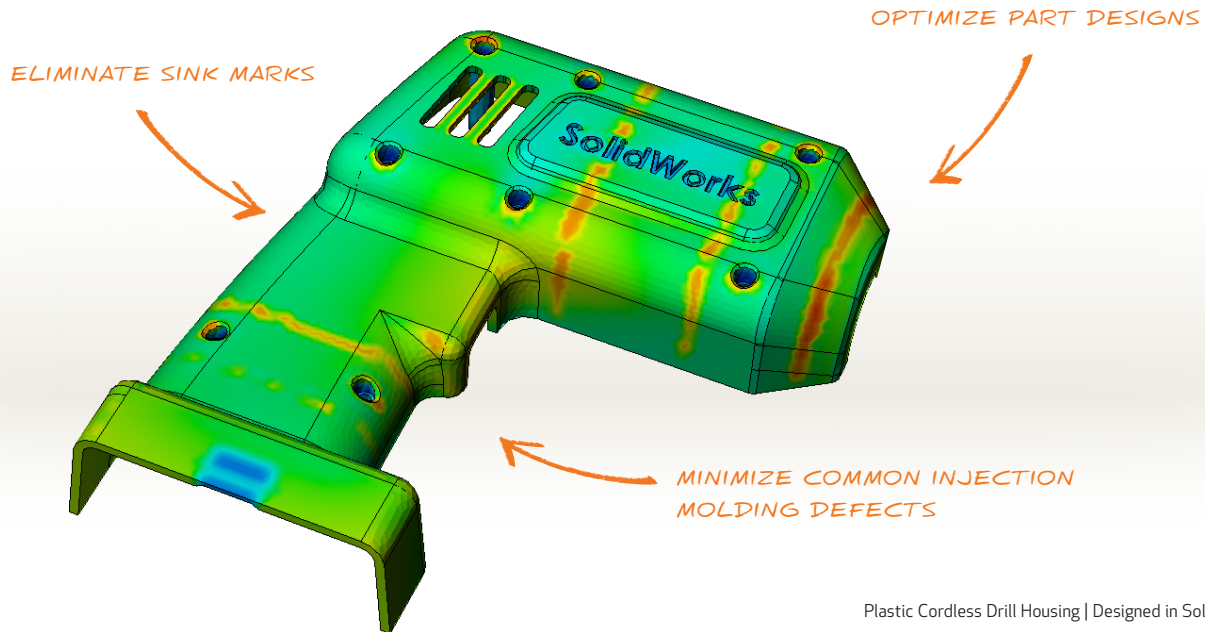
SIMULATION DRIVEN DESIGN FOR PLASTICS PART PRODUCTION

SolidWorks® Plastics brings injection molding simulation directly to the designers of plastic parts and injection molds. You can evaluate the manufacturability of your parts and molds at the same time you design for form, fit, and function.

SolidWorks Plastics simulates how melted plastic flows during the injection molding process to predict manufacturing-related defects on your parts. Once defects are identified, they can be easily minimized or eliminated by making changes to the part design, mold design, plastics material, or processing parameters, to save energy, natural resources, time, and money.

INTUITIVE WORKFLOW AND DESIGN ADVICE

SolidWorks Plastics works directly on your 3D model, so there are no translation issues. You can make changes to your model and see the impact right away. The state-of-the-art meshing system is powerful and fast, and covers a range of geometries, from thin-walled parts to very thick and solid parts.

An intuitive user interface leads you step by step. Guided analysis setup, intelligent defaults, and automated processes ensure that simulations are set up correctly, even if you rarely use simulation tools. The SolidWorks Plastics material database contains approximately 5,000 grades of commercial plastics and it is fully customizable for proprietary or custom materials.

▶ **VERIFY MANUFACTURABILITY**

SolidWorks® Plastics 2012 helps companies that design plastic parts or injection molds predict and avoid manufacturing defects during the earliest stages of design, eliminating costly rework, improving quality, and accelerating time to market. Fully integrated with SolidWorks CAD, this easy-to-use software helps part designers, mold designers, and mold makers optimize designs for manufacturability without leaving their familiar 3D modeling environment.

3S **SOLID**WORKS

Part designers get rapid feedback on how modifications to wall thickness, gate locations, materials, or geometry can affect the manufacturing of their part, while mold designers can quickly optimize multi-cavity and family mold layouts and feed systems—including sprues, runners, and gates.

ANALYZE AND OPTIMIZE A RANGE OF GEOMETRIES INCLUDING THIN-WALLED PLASTIC PARTS...
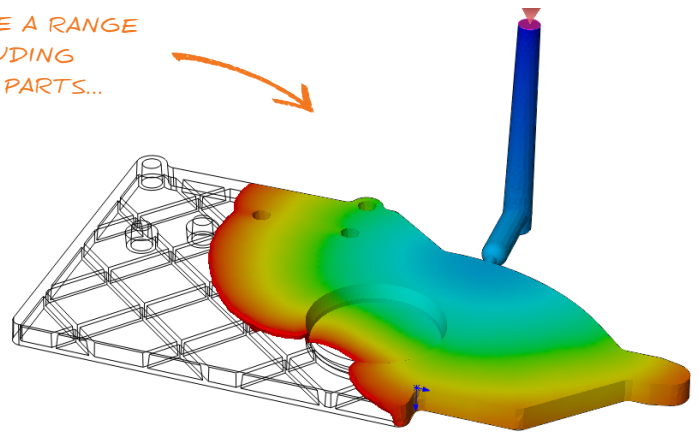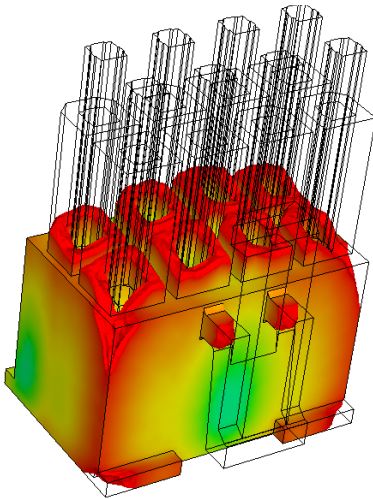
...OR THICK AND CHUNKY PARTS THAT ARE SOLID IN NATURE.
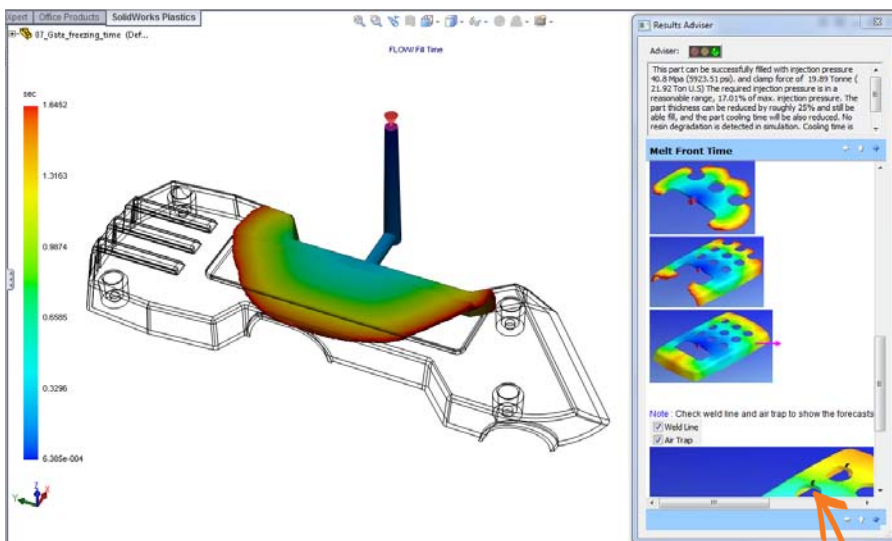
The Results Adviser provides practical design advice and troubleshooting tips to help diagnose and solve potential problems. This powerful information gives tremendous insight into the injection molding process, leading to informed design decisions and better quality products.

GET VALUABLE RESULTS ADVICE TO OPTIMIZE YOUR DESIGNS AND MAXIMIZE PART QUALITY.
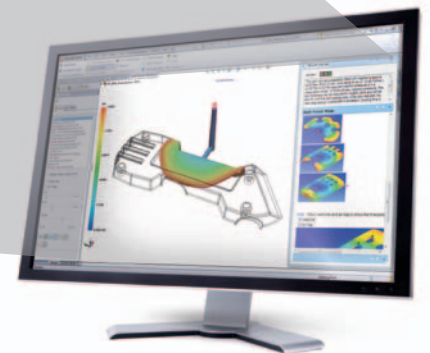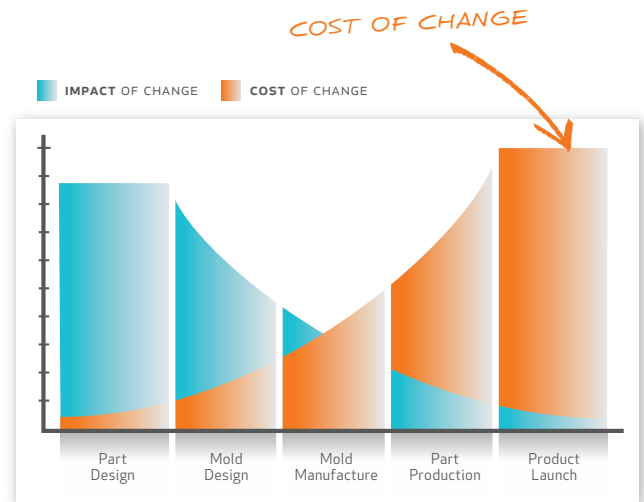
THE COST OF CHANGE

While the cost of making changes is low in the early stages of product development, the impact is highest. The sooner you can optimize your plastic parts and injection molds for manufacturability, the better.

> Design changes in the early stages of product development cost less and have the greatest impact on improving manufacturability. The cost of change increases substantially further downstream and can lead to significant time-to-market delays.

The challenge in plastics part production is to determine how your part or mold design impacts manufacturing—and how manufacturing impacts your design—in the earliest stages of design, and then communicate that information early and often throughout the design-to-manufacturing process. SolidWorks Plastics gives you the tools to quickly identify potential problems so you can make changes early in the design process.

COST OF CHANGE

IMPACT OF CHANGE   **COST** OF CHANGE

Part Design   Mold Design   Mold Manufacture   Part Production   Product Launch

DESIGN TO MANUFACTURING PROCESS

"WITH 40 YEARS IN PLASTICS DEVELOPMENT, I'M EXCITED BY SOLIDWORKS PLASTICS. USERS WILL BE ABLE TO OPTIMIZE PART AND MOLD DESIGNS IN THE EARLIEST STAGES OF DEVELOPMENT."

— **ED HONDA**, President, hondaDesign, LLC

FOR PLASTICS PART DESIGNERS

SolidWorks Plastics Professional

The most cost-effective time to optimize plastic parts for manufacturability is during the initial stages of product design. Skipping this step often leads to an inefficient mold design with an extremely narrow "good parts" processing window, resulting in high reject rates and time-to-market delays.

- **CAD Integrated**: fully embedded in the SolidWorks environment so you can analyze and modify designs for manufacturability at the same time you optimize for form, fit, and function

- **Easy to Learn and Use:** takes only minutes to learn and does not require extensive analysis or plastics expertise

- **Facilitates Design Team Communication:** web-based HTML reports make it fast and easy to communicate simulation results and design advice to all members of the design-to-manufacturing team
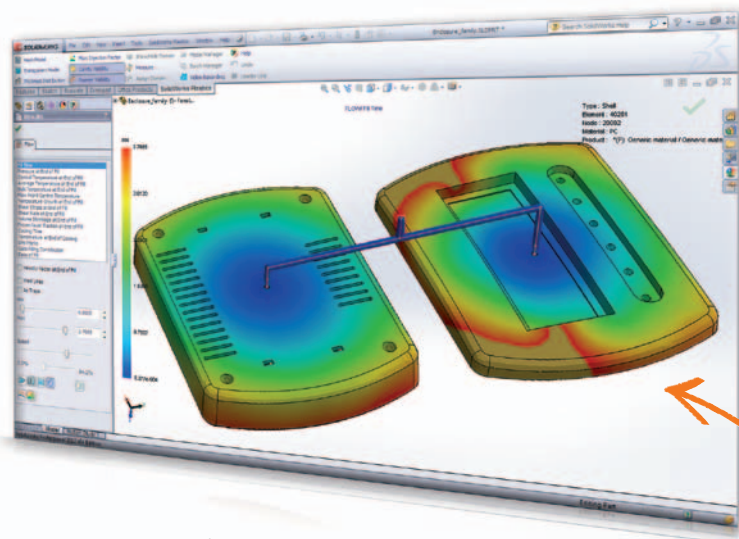
Unbalanced filling in family molds (as seen here) can be predicted and avoided with SolidWorks Plastics.

Plastic Electronics Housing | hondaDesign, LLC

AUTOMATICALLY BALANCE THE RUNNER SYSTEMS OF FAMILY MOLDS AND AVOID MANUFACTURING PROBLEMS.

FOR MOLD DESIGNERS AND MOLD MAKERS

SolidWorks Plastics Premium

SolidWorks Plastics Premium gives anyone who designs or builds injection molds an accurate, easy-to-use way to optimize them. You can quickly create and analyze single, multi-cavity, and family mold layouts, including sprues, runners, and gates. You can even balance runner systems and estimate cycle time, clamp tonnage, and shot size.

- **Avoid Costly Mold Rework:** SolidWorks Plastics helps ensure molds will work right the first time to avoid multiple rounds of time-consuming, costly, and unnecessary rework

- **Optimize Feed System Design:** analyze sprues, runners, and gates to balance runner systems; optimize gate type, size, and location; determine the best runner layout, size, and cross-sectional shape

- **Estimate Cycle Time, Clamp Tonnage, and Shot Size:** enables mold designers and mold makers to quote tooling projects quickly and accurately; assists manufacturing teams to size the injection molding machine for a given mold, optimize injection molding cycle time, and reduce plastics material scrap

SOLIDWORKS PRODUCT DEVELOPMENT SOLUTIONS

SolidWorks maximizes the productivity of your design and engineering resources to create products better, faster, and more cost-effectively. See the full range of SolidWorks solutions for design, simulation, sustainable design, technical communication, and data management at **www.solidworks.com/products2012**

▶ **SYSTEM REQUIREMENTS**

For recommended system requirements, please visit **www.solidworks.com/ systemrequirements**

To learn more about SolidWorks Plastics, visit **www.solidworks.com/plastics** or contact your local authorized SolidWorks reseller.

www.solidworks.com

SOLIDWORKS

LET'S GO DESIGN