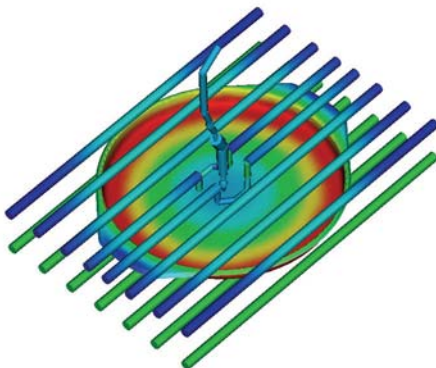
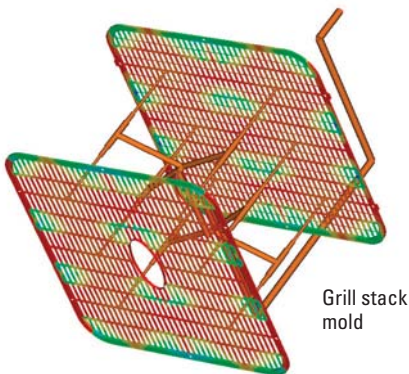
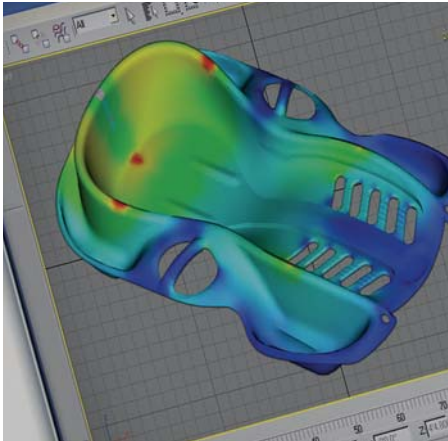


Moldflow Services — Optimize Part and Mold Design



Comprehensive Analysis and Modeling

With today's shrinking time-to-market window, development speed is essential. As part of its commitment to the molding industry, DME is now offering Moldflow™ analysis to help optimize part and mold design – especially for hot runner molds. DME is the first mold technologies supplier to earn Moldflow's silver certification in this advanced technology.

A Competitive Advantage

Predictive analysis, utilizing Moldflow software, yields tremendous benefits, including:

- Optimize part design
- Reduce time-to-market
- Save cost and time on mold tryouts
- Lower development and production costs
- Provide a framework to establish reputable processes
- Improve product quality
- Decrease cycle times

What is Moldflow?

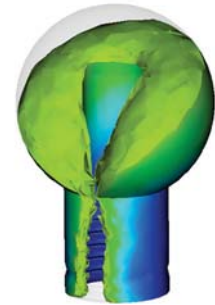
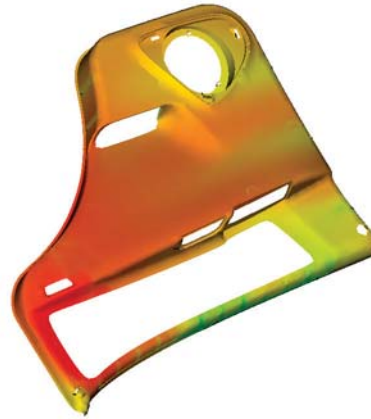
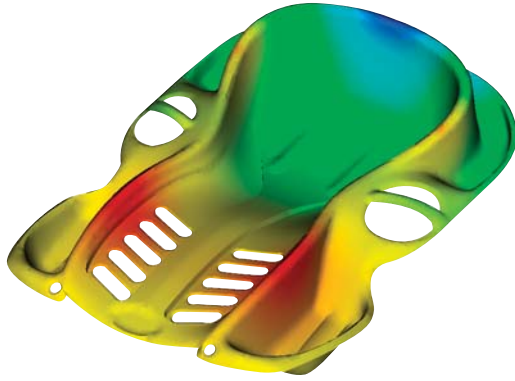
DME uses Moldflow Plastics Insight™ (MPI) software which is an integrated suite of analysis tools that utilize CAD files and apply advanced Finite Element Analysis (FEA) techniques to quickly and easily enable a virtual "what if" design environment before initiating mold construction. MPI provides in-depth part/mold design and process parameter optimization. This is in contrast to Moldflow Plastics Advisor™ (MPA) which is primarily useful for parts with low to medium complexity, conceptual designs, and quick part design validation. DME is a certified, licensed provider of Moldflow analysis services.

Mold Fill Analysis

The Mold Fill module uses predictive technology to simulate the filling process. Key analyses include:

- Optimize the number, size, and location of gates
- Balance the runner system design
- Reduce material stress levels

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- Predict weld line locations
- Validate pressure and temperature distribution within the mold
- Optimize processing conditions — including melt temperature, injection rate, and cavity pressure

Mold Pack Analysis

Building on the results of a Mold Fill analysis, the Mold Pack module optimizes the packing phase to ensure a uniform packing condition. As an indication of part warpage, volumetric shrinkage is evaluated and the pack pressure profile is optimized. The result is minimized warpage with an improved surface appearance.

Mold Cool Analysis

The Cool Analysis module assesses an existing cooling layout to determine potential molding problems. Steel types, cooling channel sizes, bubblers, baffles, coolant temperatures, and flow rates are all evaluated. Using this analysis, the Mold Cool module recommends practical tooling design changes to ensure uniform cooling. Mold Cool takes into account:

- Number, location, depth, and pitch of cooling channels
- Steel types
- Cooling circuit layouts
- Coolant temperatures and flow rates
- Cycle times

Warp Analysis

Using the results from the Fill and Cool analyses, the Warp Analysis module enables prediction of plastic part shrinkage and warpage. Warp Analysis diagnoses the cause(s) of warping and recommends the appropriate solution, such as gate location changes, design parameter changes, and reduction of wall thickness variations.

MPI 3D

MPI 3D addresses a class of problems previously unsolvable using traditional Finite Element Analysis techniques. In thick-walled parts, molten plastic can flow in all directions. Using a proven methodology based on a solid tetrahedral, finite element volume mesh, MPI 3D enables true, three-dimensional simulations on thick-walled parts.

Where Do I Start?

Contact your DME representative for more information regarding Moldflow Services. The DME Applications Engineering Department is available to provide a customized Moldflow analysis and assist you in maximizing the results of your next application.