



Innovative CAE Simulation Services

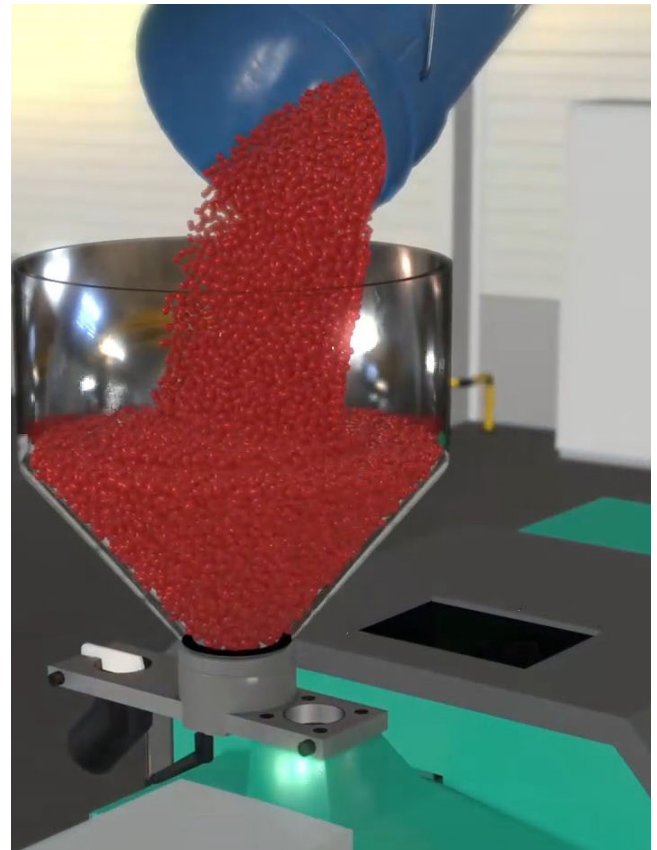
Mold flow simulation and analysis is a valuable tool providing you with an opportunity to evaluate the essential aspects that impact part moldability before it is designed and the mold has been built.

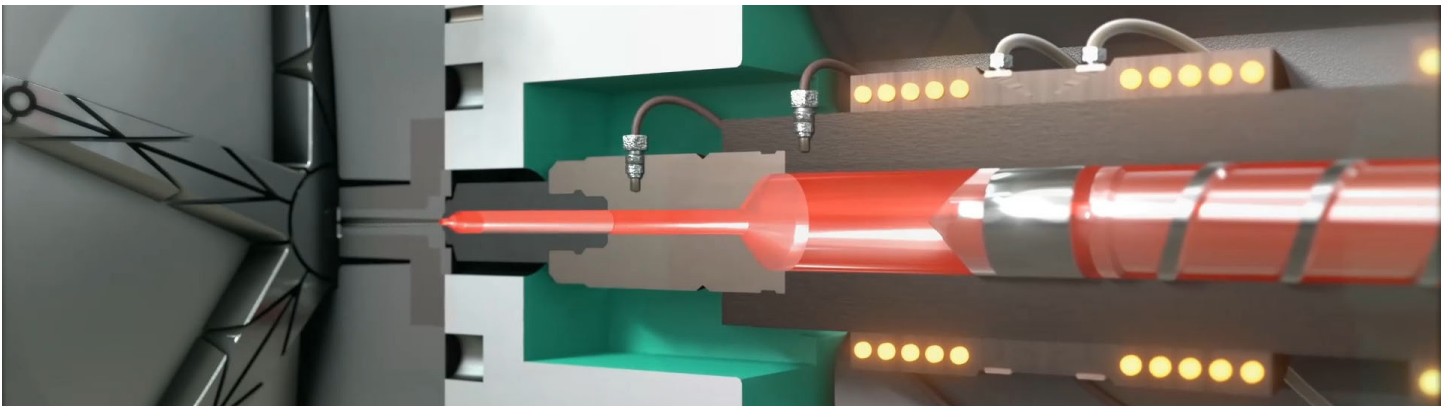
This critical process will save you time and money and provide optimal solutions, eliminating the potential for costly part redesign and mold rework. Many aspects of injection molding can be evaluated, such as gate size and location, identification of potential weldline locations, air traps, wall thickness enhancement to achieve uniform filling, and injection pressure requirements, just to name a few. In addition, mold flow analysis provides you with an understanding of the mold filling, packing and cooling during a mold cycle, and how molding process parameters will influence molded-in stress leading to shrinkage and warpage, all before the tool is designed and built.



Kruse Analysis capabilities include the following:

- Eliminate the trial-and-error design method and the need to rework new molds
- Improve product development time and manufacturing technologies
- Increase product quality and improve productivity
- Reduce tooling, tooling labor, and plastic material cost
- Reduce cycle time while maximizing product efficiency
- Minimize shrinkage differences, residual stresses, and warpage
- Improve dimensional conformity to achieve tolerance requirements
- Evaluate the feasibility of alternative plastic materials





Your product starts with an idea. Turning your idea into a product and getting it to market as quickly as possible is both a challenge and an opportunity. We will help you design your idea into a product of the highest quality, that can be manufactured in the fastest, most cost-effective way.



Mold Filling Packing Shrinkage and Warpage Simulations

- Optimize cavity fill pattern
- Optimize gate size, number, and location
- Optimize cold and hot runner sizing and layout
- Runner balancing simulations
- Weldline placement optimizations
- Air trap evaluations
- Evaluate pressure requirement and possible short shot conditions
- Evaluate runner shear imbalance
- Determine maximum material shear rate and shear stress limits
- Evaluate fiber orientations in filled materials
- Determine possible core shift due to high pressures
- Evaluate mold venting
- Optimize packing pressure profiles to minimize shrinkage differences

Mold Thermal Simulations

- Evaluate and optimize the waterline and heater placements
- Determine the true 3D mold temperature of all mold components
- Perform cavity cluster or mold thermal steady state evaluations
- Evaluate the impact of various different mold steel combinations
- Perform actual water flow simulations to determine pressure drop

Thermoplastic Injection Molding

- Thermoset Injection Molding / Filling to Curing
- Rubber Injection Molding / Filling to Curing
- LSR Silicon Injection Molding / Filling to Curing
- Chemical Foaming Injection Molding
- MuCell Injection Molding
- Gas Assist Injection Molding
- Water Assist Injection Molding
- PIM-Powder / MIM-Metal / CIM-Ceramics
- Insert Over Molding
- Two Material Over Molding Injection Molding
- Two Material Co Injection Molding

For more details and pricing information, contact Torsten Kruse (torsten_kruse@kruseanalysis.com / 239-351-6468) or visit www.kruseanalysis.com