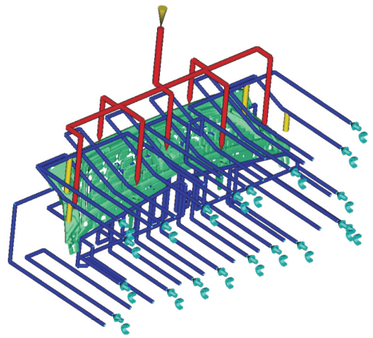
Advantages for our Customers

- ✓ Improved product quality.
- ✓ Reduction of development time.
- ✓ Reduced efforts during molding trials.
- ✓ Optimized manufacturing processes.
- ✓ Better understanding of the complex rheological and thermal phenomena during molding.
- ✓ Cost savings.
- ✓ Increase of customer satisfaction.

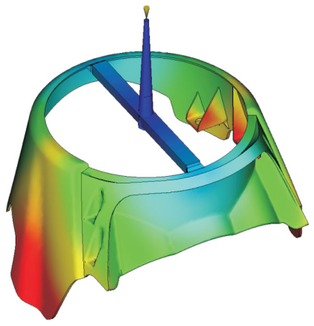
Benefit of MoldFlow Simulation

- ✓ Efficient Process Conditions.
- ✓ Optimum Cooling for Cycle Time Savings.
- ✓ Optimum Gate Position for Minimum Machine Size.
- ✓ Position Weld Line Where You Want Them.
- ✓ Runner Balancing for Minimum Scrap.
- ✓ Eliminate Air Traps, Sink Marks & Burning.
- ✓ Minimize Clamp Force Requirements.
- ✓ Control Fiber Orientation.
- ✓ Even Part Shrinkage.
- ✓ Gas Injection Simulation.
- ✓ Reduced Warpage at Fast Cycles.



Area of Expertise

1. Identifying the most suitable material.
2. Optimizes the part's wall thicknesses to achieve a uniform filling.
3. Determines the optimal gate location for the part.
4. Identifies and eliminates aesthetic defects such as sink marks, weld lines and air vents.
5. Achieving optimal weld line placement.
6. Arriving at correct tool layout and runner designs required.
7. Providing complete report which eliminates expensive process of trial & error.
8. Allows achieving quality injection molded parts at very first time.



Opptum Engineering Solutions Pvt. Ltd.

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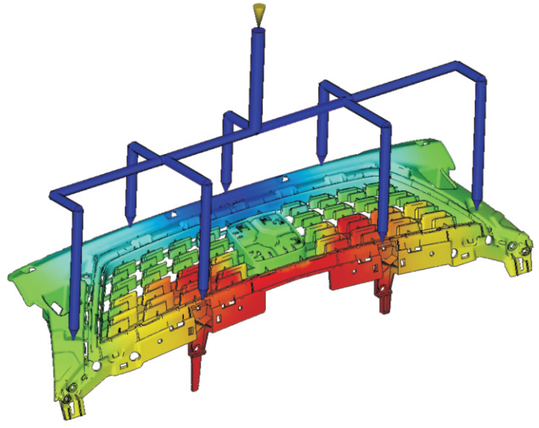
Opptum

Engineering Solutions Pvt. Ltd.

7 Reasons Why You Should Consider Opptum as Your Mold Flow Analysis Partner....

1. We are associated with Tool and Mold Industry since the last two decades.
2. Opptum is one of the fastest growing startup company in Pune in this industry, Our low overheads help provide you with cost benefits while maintaining the superior technical effectiveness of a company of 20 years of experience.
3. Using the latest authentic Autodesk Moldflow Insight 2016 software we have analysed over 1000+ components across industry domains.
4. We specialize in Automotive, FMCG, Medical & the Electronics industries.
5. We have a highly experienced Engineering team of trained Moldflow Analysis Engineers.
6. We help optimize design solutions with good tooling, part design & molding expertise. we have Proven experience with all major OEM, Tier 1 & Tool Makers.
7. Our strength is to deliver the moldflow analysis report to you within Three working days, for small and medium size components with high quality standards.



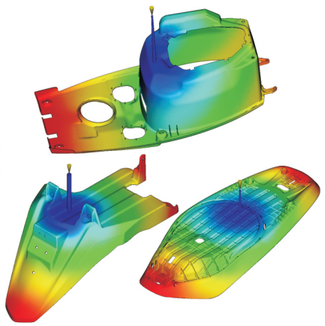
Meshing Services

Fusion Mesh, Mid-Plane Mesh and 3D Tetrahedral Mesh

We have extensive experience with all Moldflow Mesh types and able to supply other Moldflow users with a high quality accurate mesh ready to run. We convert the most complex CAD geometries into sophisticated FEA models for Moldflow Analysis simulation.

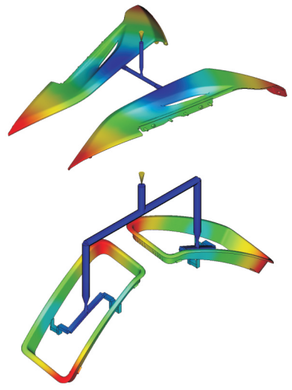
Best Gate Location

The Gate Location Analysis is used to recommend injection locations for the part. This analysis works for all analysis technologies and is used as a preliminary input for a full analysis. The areas recommended for the injection location are the areas worth pursuing as potential injection locations.



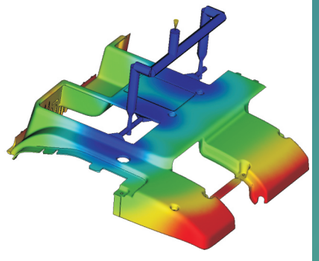
Fill Analysis

Predict and visualize the flow front progression to see how the mold fills. Determine injection pressure and clamp force requirements. Optimize part wall thickness to achieve uniform filling, minimize cycle time, and reduce part cost. Predict weld line locations and either move, minimize, or eliminate them. Identify potential air traps & determine locations for proper mold venting. Optimize process conditions such as injection time, injection velocity profile, melt temperature, packing pressure, packing time, and cycle time.



Packing Analysis

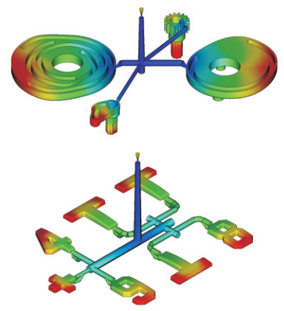
Packing Analysis can be used to optimize the second stage of the injection molding process to achieve the right balance between part quality, part cost, and cycle time. One can set up and evaluate packing profiles to determine the optimal packing pressure and duration of packing and can review the volumetric shrinkage, cycle time, and the average temperature across the part.



Runner Balance Analysis and Optimization

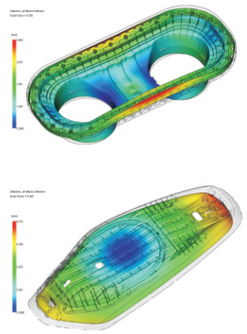
The Runner System should be designed in such a way that all of the parts finish filling at the same time. This can be achieved by balancing the runner system.

Before the design of runners for a family mold, analyze each part on its own. Once we know that each cavity is Filling properly, the runner system can then be designed & created for a balanced Fill path in each cavity. If the runners are not balanced, molding problems such as hesitation, underflow and over packing may occur.



Warpage Analysis

Warp Analysis is used to diagnose the cause of warping and recommend a solution, such as gate location changes, design parameter changes, or reduction of wall thickness variations. This can be used to evaluate final part shape before machining the mold.

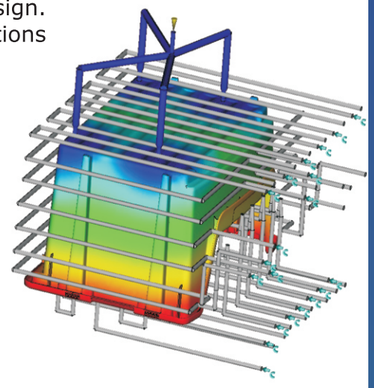


Cooling Analysis

Cooling Analysis is used to evaluate and optimize cooling line design. Analyzing the cooling phase can help determine the coolant conditions needed to maximize the efficiency of the proposed cooling layout.

A Cooling Analysis can assist in:

- ✓ Cycle time optimization
- ✓ Effect on warpage
- ✓ Evaluation of baffles
- ✓ Pressure drop along each cooling circuit
- ✓ Variation in coolant temperature
- ✓ Cavity surface temperature distribution



Fiber Orientation Analysis

Fiber Orientation Analysis shows a layered nature, and are affected by the filling speed, the processing conditions and material behavior, plus the fiber aspect ratio and concentration.