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Injection Molding Simulation

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Injection Molding Simulation – a Useful Addition for Optimization of the Development and Injection Molding Process

Why Moldflow?

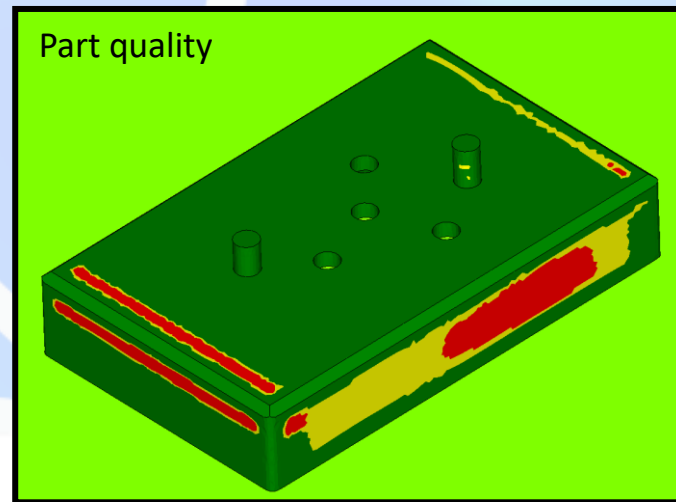
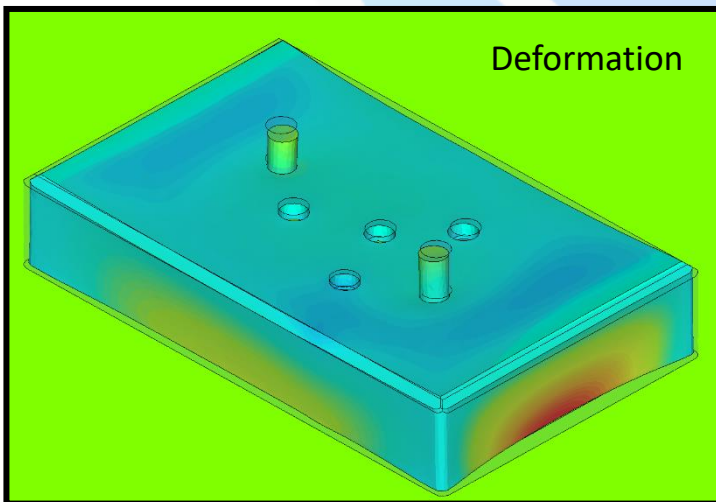
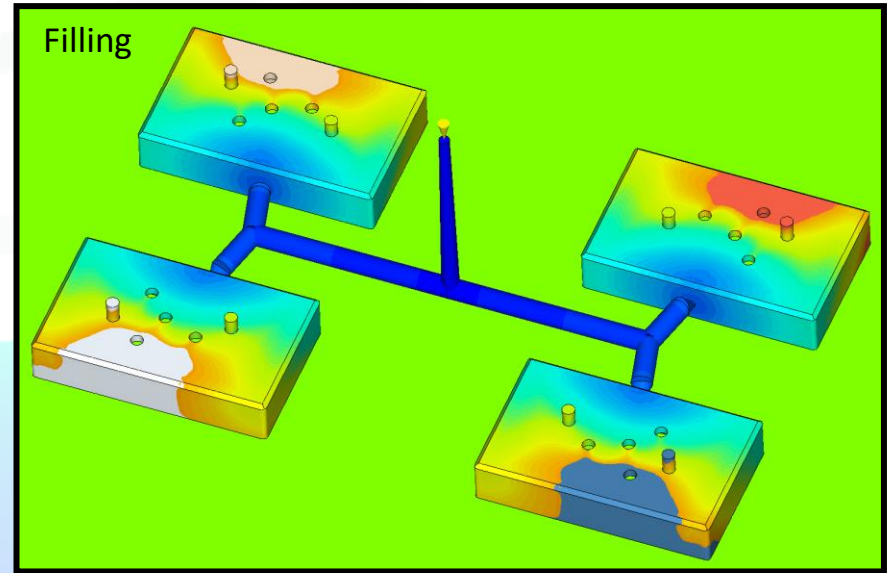
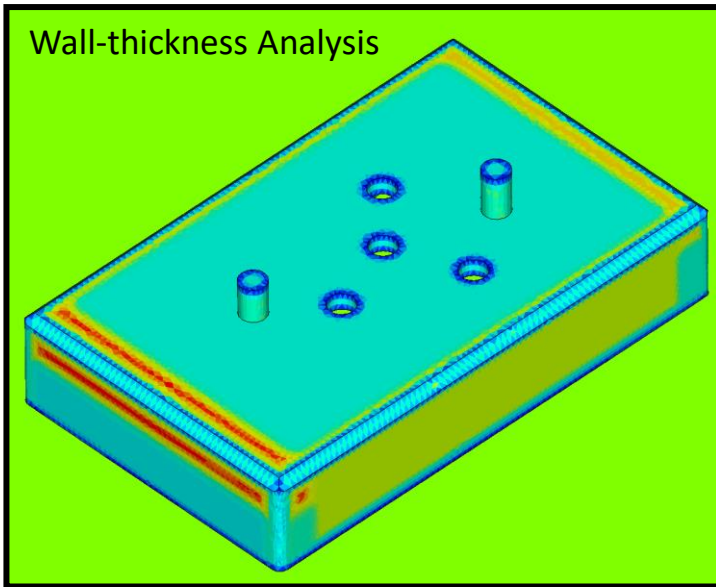
- To ensure and optimize the part design
- Recognizing quality problems and design issues in advance from the beginning
- Evaluation for getting the best injection point and solution
- Support for choosing the best tool layout
- Help for considering steel-oversize and correction loops during tool manufacturing
- Assisting to avoid expensive and long-term tool modifications after first try-out
- Exact and detailed results considering different points of view
- Better results even on FOT production
- Shorter schedule to start the serial mass production

Injection molding simulation and tool supplied by Gollmer Formen

One competent partner for your individual solution to **form your ideas!**

The whole service in one hand.

Injection Molding Simulation – Examples for Application



Injection Molding Simulation

Our Performance:

- The filling – all important parameters for the most significant stage of parts production
- Holding and packing – fundamental for good parts quality and correct dimensions
- The shrinkage – it's better to know this detail well
- Warpage – can be controlled
- Deformation – the absolute distortion resulting from shrinkage and warpage
- Glass-fiber orientation – always good to know this detail

In order to know all details for the parts quality or take the needed action to improve your parts, it's useful to do a full injection molding simulation.

Based on the check and the evaluation of the results in the beginning, problems can be recognized faster and adjustments can be done in advance.

Injection Molding Simulation

The Know-how:

- Based on the customers' part data – optimal in tooling direction. All results can be directly assumed for the injection molding process. (e.g. machine closing force (kN))
- With the help of a huge material data base – many material data are directly useable in the software. Common special materials are available upon request. „Exotic“ materials can be supplied.
- Consultation and always in close and direct discussions with the customer. Together we develop suggestions and recommendation to improve and optimize the solution.
- With modern and high-tech software from Simcon – Made in Germany. The software is calculating the results based on a 3D volume model by taking all 3 axis-diretions into consideration.

Exact results and fast computation!

Injection Molding Simulation

Categories of Calculation:

We distinguish the effort for the Moldflow simulation in three categories depending on article's weight and complexity.

It is always the higher categorization that counts for the evaluation.

Category 1: part up to 50g or simple part

(without ribs, without fibers)

Category 2: part between 50g – 200g or less complex part

(with medium ribs-structure and fibers)

Category 3: part more than 200g or complex part

(with complex rib-structure and fibers)

Injection Molding Simulation - Standard Price

Cost Information for Part Category 1:

Part up to 50g or simple part (without ribs, without fibers)

- | | |
|--|------|
| • Calculation for the filling | 500€ |
| • Calculation for filling, holding-pressure/packing | 700€ |
| • Calculation for filling, holding-pressure, sinking, shrinkage, warpage and deformation | 900€ |
| • Information for the Glass-fiber orientation (upon request) | free |

Additional options:

- | | |
|---|------------------|
| • Designing of cold runner layout | 150€ |
| • Designing of hot runner-systems / hybrid-systems (hot mold) | 200€ |
| • Thermal calculations | based on request |

Each Reset:

200€

**Detailed html-report with all relevant topics and results is included in the costs.
There will be no detailed result explanation in a text-form for different detail-results.**

We are looking forward to sending you an offer for your individual part

Injection Molding Simulation - Standard Price

Cost Information for Part Category 2:

Part between 50g – 200g or simple part (with medium ribs-structure and fibers)

- Calculation for the filling 600€
- Calculation for filling, holding-pressure/packing 800€
- Calculation for filling, holding-pressure, sinking, shrinkage, warpage and deformation 1100€
- Information for the Glass-fiber orientation (upon request) free

Additional options:

- Designing of cold runner layout 150€
- Designing of hot runner-systems / hybrid-systems (hot mold) 200€
- Thermal calculations based on request

Each Reset:

250€

Detailed html-report with all relevant topics and results is included in the costs.
There will be no detailed result explanation in a text-form for different detail-results.

We are looking forward to sending you an offer for your individual part

Injection Molding Simulation - Standard Price

Cost Information for Part Category 3:

Part more than 200g or simple part (with medium ribs-structure and fibers)

- | | |
|--|-------|
| • Calculation for the filling | 700€ |
| • Calculation for filling, holding-pressure/packing | 900€ |
| • Calculation for filling, holding-pressure, sinking, shrinkage, warpage and deformation | 1300€ |
| • Information for the Glass-fiber orientation (upon request) | free |

Additional options:

- | | |
|---|------------------|
| • Designing of cold runner layout | 150€ |
| • Designing of hot runner-systems / hybrid-systems (hot mold) | 200€ |
| • Thermal calculations | based on request |

Each Reset:

300€

**Detailed html-report with all relevant topics and results is included in the costs.
There will be no detailed result explanation in a text-form for different detail-results.**

We are looking forward to sending you an offer for your individual part

Basics and Remarks for Injection Molding Simulation

- With the service of a mold flow simulation, we only act in an advisory capacity. We can propose suggestions and recommendation for improvement and to avoid possible problems through the interpretation of the results.
- A Moldflow simulation is a tool for optimization of injection molding parts and (if necessary) of the tool-design in advance but no representation of the reality.
- The results and conclusion from the simulation are tendencies and do not represent absolute value.
- Requirements for a simulation are the data availability from material manufacturer or an alternative.
- The simulation is based on the recommended processing parameters given by the material manufacturer.
The usage of customer parameters only after complete transfer of all relevant parameters and explicit instructions.
- Batch fluctuations in the plastic and unforeseeable process fluctuations / external influences cannot be mapped.
- Moldflow simulation only based on the provided 3D data from the customer. If the simulation reveals problem areas on the injection molding parts that require a design change on the product, a second simulation run must be commissioned to confirm the change.
-> Otherwise, there is a risk of falsification of the simulation results and misinterpretation.
-> Checking additional geometries requires additional costs for mesh preparation, calculation and interpretation of the results.
See cost breakdown for reset(s).
- The provided part data from customer must be in the tooling direction.
Alternatively aligned vertically to another axis. In this case, the required closing force can be determined directly.
- The customer receives a comprehensive HTML report with all important points. This report will be provided before or after the technical discussion with the customer. In the HTML report, there is no detailed description in text form for the respective partial simulation result. The HTML report is included in the simulation cost. The creation of a detailed report with a description and interpretation of each simulation sub-result is dependent on the given requirements and will cause additional costs according to the expenditure.
- The customer can install a cost free Cadmould viewer for their own evaluation, result analysis and independently view the simulation results in 3D. The viewer can be downloaded on the Simcon website.
- The Moldflow simulation can show errors and weak points in the injection molding parts in advance.
Decisions as to whether and how the components should be changed are the sole responsibility of the customer only.