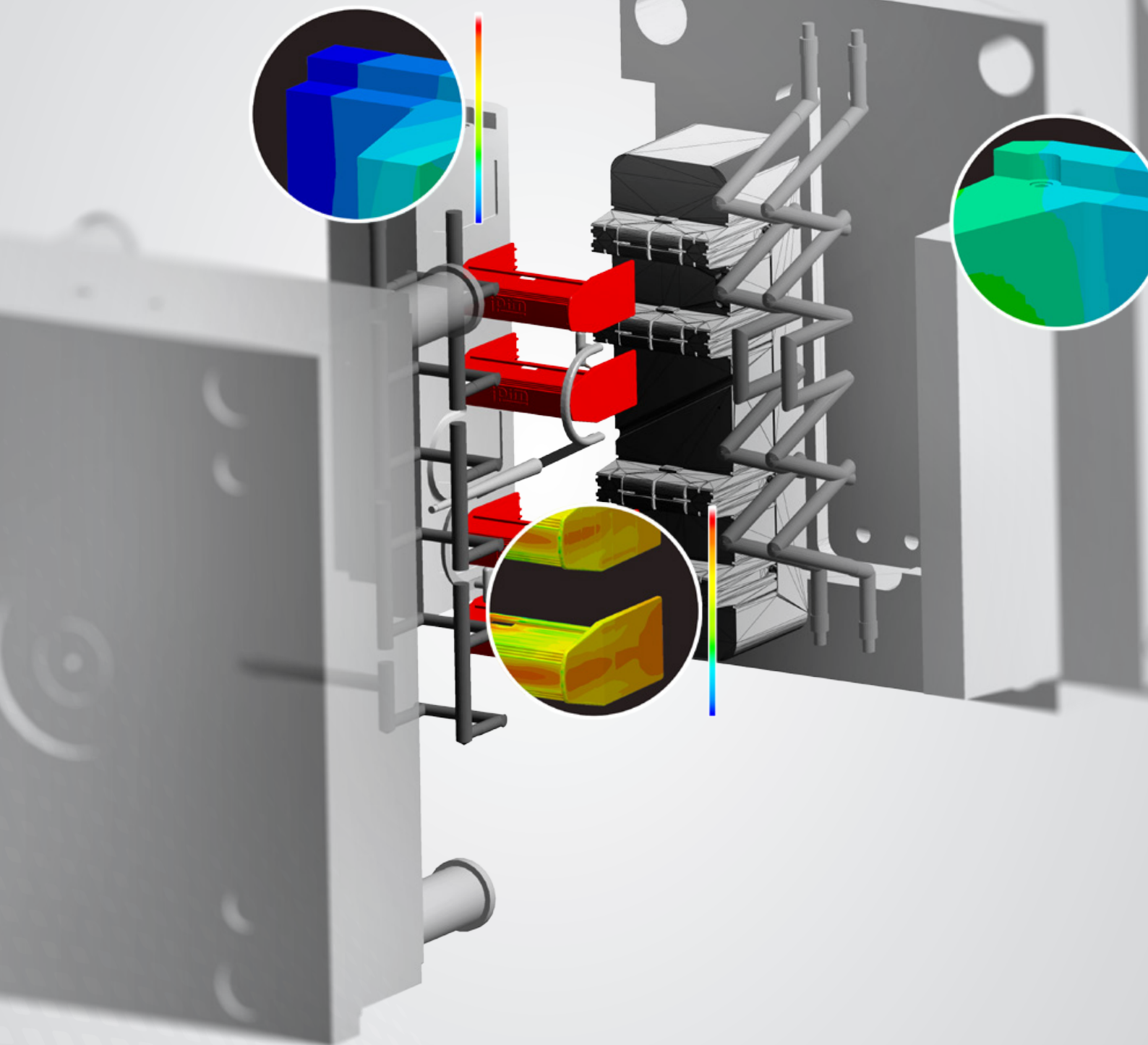


# VIRTUAL MOLDING

*THERMOPLAST*



**SIGMASOFT**<sup>®</sup>  
Virtual Molding

Acquire full transparency of the production processes for plastics, because you no longer have to ignore or leave out the crucial details during planning and realization.

# SIGMASOFT® VIRTUAL MOLDING THERMOPLAST

Just imagine you could analyze all parameters of your injection molding process, before the first prototype of your mold is built. An entirely virtualized production process, on top of that enriched with special know-how for plastics processing. The perfect solution to visualize, analyze and optimize your mold concept, the material flow, use of energy during production, part warpage and a number of further parameters. A virtual injection machine which can make the difference in profitability for your plastic injection molding production. This imagination can become reality: with SIGMASOFT® VIRTUAL MOLDING Thermoplast.

The range of SIGMASOFT® VIRTUAL MOLDING Thermoplast starts at simple calculations of the part, followed by first tempering concepts and continues to complete virtual mold configurations of single- or multicomponent processes. By considering the real, thermal properties of the 3D mold systems SIGMASOFT® builds a solid foundation for all important decisions during the development process. Besides the filling, packing and cooling behavior the software not only predicts all thermophysically induced changes of the part strain, but also the heat flow within the mold.

**With SIGMASOFT® VIRTUAL MOLDING Thermoplast you optimize your injection molding processes in every detail. And find the actually most efficient solution.**

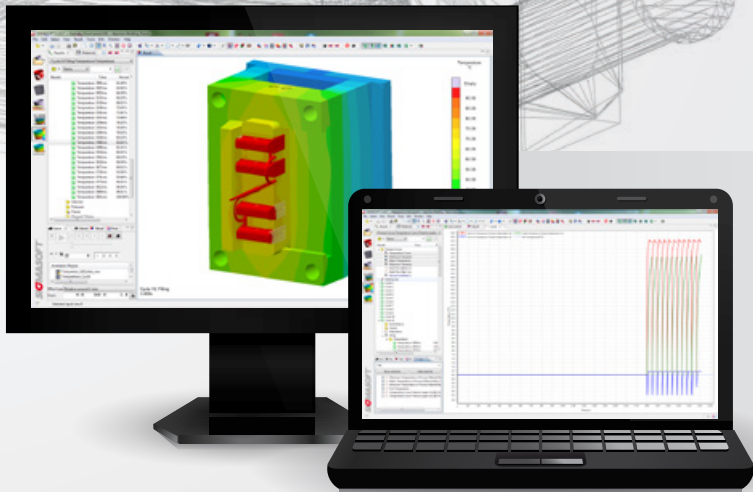
SIGMASOFT® Thermoplast answers the following questions:

- **What is the fiber orientation inside the part and how does it influence the part properties?**
- **Is the solidification influenced by crystallization effects?**
- **What is a sufficient tempering layout?**
- **Which cycle time can be obtained with this tempering concept?**
- **Are there easy means to make the mold more energy-efficient?**
- **Which mold concept leads to an efficiently produced part with the requested dimensions and surface qualities?**

## Analysis included:

**Our engineers are there for you  
SOLUTION SERVICE for SIGMASOFT® Users**

Almost three decades of plastic and injection molding know-how are contained in each one of our SIGMASOFT® VIRTUAL MOLDING solutions. Each analysis result from our software delivers reliable advice for the design of the optimal mold and process. To use the complete potential from SIGMASOFT® VIRTUAL MOLDING, the user has the SOLUTION SERVICE at hand – a team of engineers and technicians with profound experience in processes, materials and modelling. Additionally our Solution Service offers you competent support when setting up a project, as well as in the evaluation and analysis of the different results.



The intuitive, graphical user interface of SIGMASOFT® leads you step-by-step through all process levels. Automatic algorithms allow you to mesh a complete mold in a few minutes. Without need for mesh healing, triangle manipulation or removal of rounded or chamfered corners. SIGMASOFT® VIRTUAL MOLDING Thermoplast makes the mold and process transparent during production.

# SIGMASOFT® VIRTUAL MOLDING THERMOPLAST



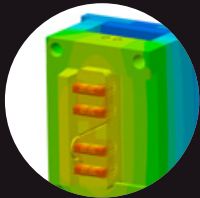
## Exactly predicts part warpage ...

... as it already considers all thermophysical interactions and in-molded strain while the part is in the mold and furthermore tempering processes after ejection as well.



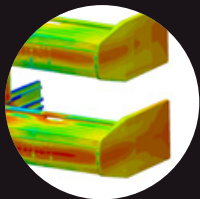
## Avoids mechanical weaknesses in the part ...

... because our software solution predicts not only weldlines and air entrapments, but also fiber orientation and its influence on viscosity and part filling during the flow calculation.



## Saves time by calculating the optimum cycle time ...

... because mold and part are calculated in the running process without the assumption of simplified boundary conditions.



## Precisely predicts the cooling behavior ...

... as the software identifies voids and hot spots and also simulates the crystallization of semi-crystalline plastics during solidification.



## Takes care of the optimum thermal layout ...

... by testing different tempering concepts comfortably and fast before the mold is built – even of innovative concepts for serial production.



## Optimizes processes ...

... because all process times are taken into account over several cycles – even potential time-outs between cycles.