

Simulation and component design in casting technology

We encounter complex problems with sophisticated solutions.

Lightweight bell stand of 1 kg safely holding a bell of 16 kg
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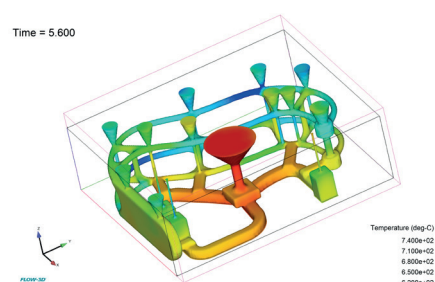
The constant striving for the improvement of products and their components increases the demands on the design of structures and components. At the same time, there is growing claim of ever greater freedom of design in product development processes.

The common goal of increasingly complex components, which on the one hand have to be designed cost-effectively and on the other hand still have to guarantee sufficient safety, can only be effectively reached in the product development process by means of simulations.

At the Fraunhofer IGCV various CAE tools are used to push these boundaries further and to create new possibilities in the field of casting technology. The foundry industry consists of various sub-process steps with its own tools and simulations.

The obvious casting simulations are just as needed as the calculation of binder structures in molding materials or modern methods of factory and process planning. The Fraunhofer IGCV not only uses these tools in everyday life, but also develops them further and creates

simulation tools for the areas of casting technology which today have no access to CAE-tools. The validation of simulation by experiment is also a central task at the Fraunhofer IGCV. In addition, material models and physical input variables for simulations are determined by experiment.



Filling simulation of a lightweight bell stand

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