

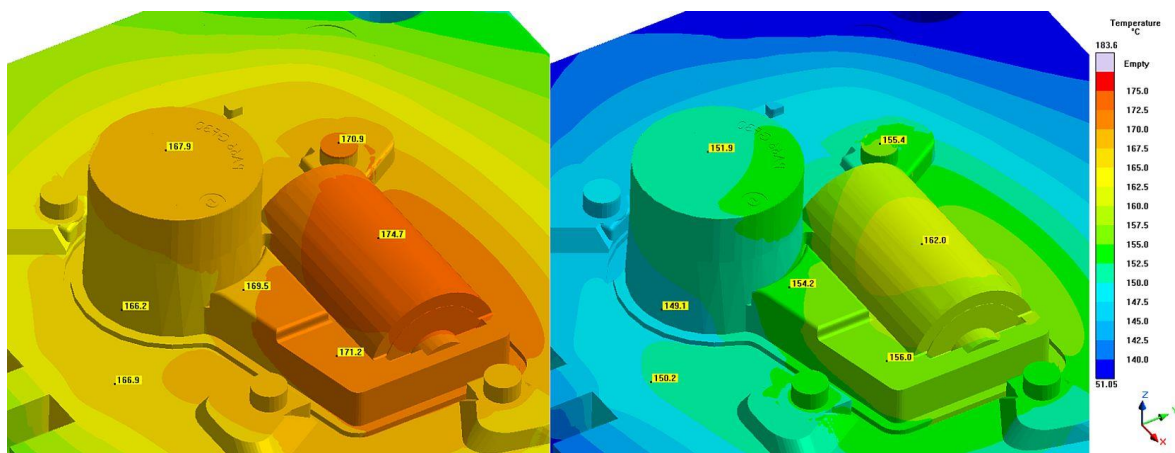
## Press Release

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### Moulding Expo 2017 Virtual Mold Design

*At Moulding Expo 2017 SIGMA shows how tool makers virtually optimize their molds upfront with the help of SIGMASOFT® Virtual Molding. Thus, they avoid mold iterations and trial and error on the injection molding machine. The software not only supports the selection of the ideal mold alloy, but also helps to find the optimum tempering concept.*



*Figure 1 – Comparison of different tempering concepts with SIGMASOFT®: a classical oil tempering which leads to temperatures far from the intended ones (right); and a homogenous temperature distribution by a concept with pressurized water (left)*

## Virtual Mold Design

**Aachen, May 2<sup>nd</sup>, 2017** – Between May 30<sup>th</sup> and June 2<sup>nd</sup>, 2017, SIGMA Engineering GmbH from Aachen, Germany, presents its SIGMASOFT® Virtual Molding technology at Moulding Expo in Stuttgart, Germany, in hall 6 at booth 6E19. There the software's application possibilities along the complete product development chain are presented – from the initial part design over the tool design and set-up of the molding process up to serial production. In correspondence with the focus of the show the virtual design of injection molds occupies center stage.

This topic will be intensified by Mr. Mansfeld in a forum of Carl Hanser Verlag accompanying the show. On June 1<sup>st</sup> his presentation "Virtual Optimization of Injection Molding Tools and Processes" will give a deeper insight on virtual mold design. Innovative approaches and different concepts are easily compared virtually. Testing expensive or unusual concepts like conformal cooling or rarely used tempering media is easily done on the computer and their profitability evaluated.

For example picture 1 shows a comparison between a classical oil tempering (right) and a tempering system using pressurized water (left). For the production of the part a mold temperature of 180°C was defined as ideal. However, even with a set oil temperature of 200°C the classical concept was not able to deliver a sufficient or even homogenous temperature in the cavity. The tempering system with pressurized water on the other hand lead to a more homogenous temperature distribution and was closer to the target temperature, even though its medium was only set to 180°C. Finally, this concept also guaranteed a more stable production process.

With the help of SIGMASOFT® Virtual Molding users not only find the ideal configuration of known and well-established mold concepts. They also test new approaches and innovative concepts without risk on the computer. For example the virtual comparison shows the ideal tempering concept without expensive iterations on the real mold.

SIGMA® (www.sigmasoft.de) is 100% owned by MAGMA® (www.magma-soft.de), the world market leader in casting process simulation technology based in Aachen, Germany. Our SIGMASOFT® Virtual Molding technology optimizes the manufacturing process for injection molded plastic components. SIGMASOFT® Virtual Molding combines the 3D geometry of the parts and runners with the complete mold assembly and temperature control system and incorporates the actual production process to develop a turnkey injection mold with an optimized process.



At SIGMA® and MAGMA®, our goal is to help our customers achieve required part quality during the first trial. The two product lines – injection molded polymers and metal castings – share the same 3D simulation technologies focused on the simultaneous optimization of design and process. SIGMASOFT® Virtual Molding thus includes a variety of process-specific models and 3D simulation methods developed, validated and constantly improved for over 25 years. A process-driven simulation tool, SIGMASOFT® Virtual Molding provides a tremendous benefit to production facilities. Imagine your business when every mold you build produces required quality the first time, every time. That is our goal. This technology cannot be compared to any other simulation approach employed in plastics injection molding.

New product success requires a different communication between designs, materials, and processes that design simulation is not meant for. SIGMASOFT® Virtual Molding provides this communication. SIGMA® support engineers, with 450 years of combined technical education and practical experience, can support your engineering goals with applications specific solutions. SIGMA® offers direct sales, engineering, training, implementation, and support, by plastics engineers worldwide.

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