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Press Release

**SIGMA at MECSPE 2017
Finding Ideal Set-Ups and Innovative Concepts**

SIGMASOFT® reduces trial-and-error and pushes innovative processes

SIGMA Engineering exhibits for the first time with their own booth at MECSPE in Parma, Italy. It takes this opportunity to introduce its SIGMASOFT® Virtual Molding technology to a broad public and to widen its activities in the Italian market. The technology helps to optimize existing injection molding tools and processes as well as to virtually test innovative processing and tooling concepts.

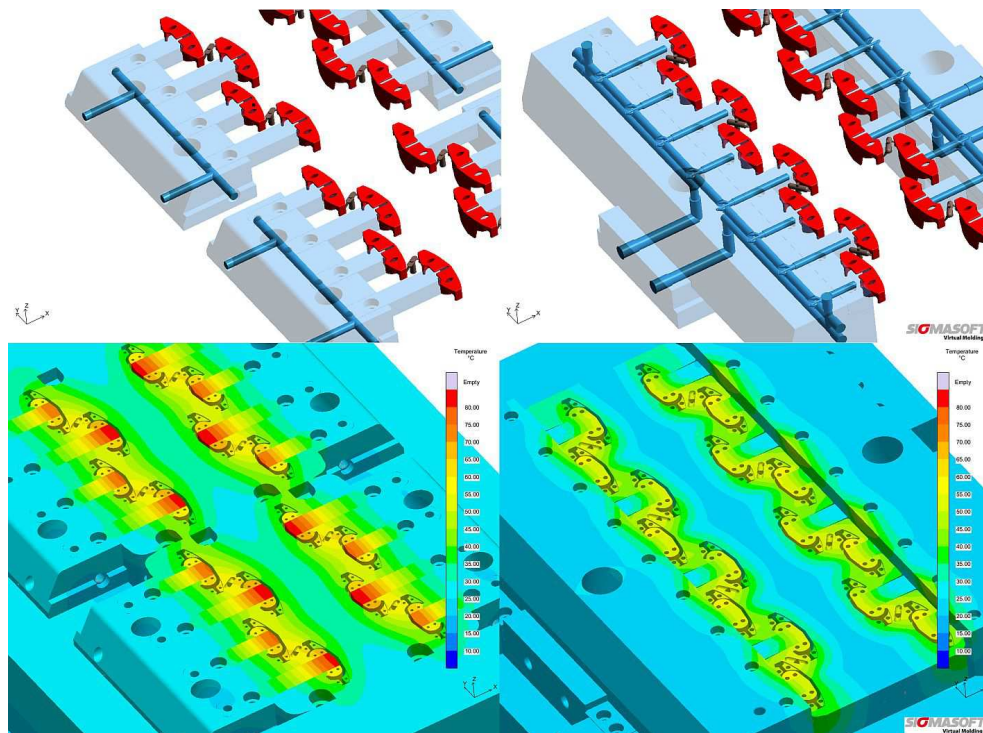


Figure 1 – The original tempering concept for the clip caused hot spots in the mold (left) with SIGMASOFT® the ideal tempering concept was found (right)

Finding Ideal Set-Ups and Innovative Concepts

Aachen, March 1st 2017 – Between March 23rd and 25th, 2017, SIGMA Engineering GmbH from Aachen, Germany, showcases its SIGMASOFT® Virtual Molding technology at MECSPE, Parma. In Pad.6 at booth B50 the interested public has the opportunity to learn more about how SIGMASOFT® supports the complete process development of injection molding processes. From the first design over the evaluation of different tooling concepts up to the ideal process set up on the machine, the simulation software helps its users to find the ideal solution. As SIGMASOFT® works as a virtual injection molding machine different set-ups or new concepts are tested risk free on the computer. Thus, molders not only skip time and cost intensive trial-and-error on the machine, but also save resources and make their processes more profitable.

By reference to different practical examples, typical questions of elastomer, thermoplast, thermoset and Powder Injection Molding processes are answered by the SIGMA team. Moreover the examples help to visualize the software's potential for the visitors, especially in the fields of design, mold making and part production. Some of the examples may already be familiar to visitors of last K show – one of them the clip part from F. & G. Hachtel GmbH (Fig. 1). For this part SIGMASOFT® helped to optimize the mold and tempering concept before the steel was cut. Thus, the mold produced good parts without warpage from the first shot.

However, SIGMASOFT® not only supports the optimization and improvement of classical injection molding processes, it also allows its users to safely try innovative processing and tooling concepts. The two-component egg cup, also an example from K show, highlights these possibilities for LSR applications (Fig. 2). With ELMET Elastomere Produktions- und Dienstleistungs-GmbH and Momentive Performance Materials Inc., SIGMA helped to realize a LSR on LSR application with an existing 1-component machine by the help of an adaptable unit. With SIGMASOFT® Virtual Molding the practicability of different combinations of material, mold, machine and process was safely tested on the computer until the optimum solution was found.

Collaboration with MESGO

To improve the simulation results and to provide a wide variety of materials in their database, SIGMA always seeks strong partnerships with material suppliers. One of these partners is

the well-established compounder MESGO group. To even further aid their customers during the development of new processes they measured three of their most popular silicone rubber compounds to make them available for a SIGMASOFT® Virtual Molding analysis. With the next major release of SIGMASOFT® its database will include one fluoro-silicone rubber and two silicone rubber compounds.

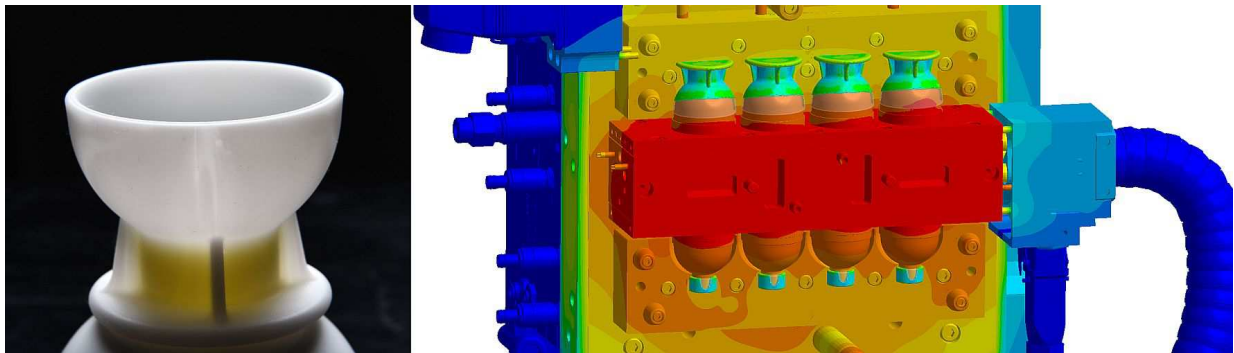


Figure 2 – The mold and complete process for the 2-component LSR egg cup were calculated upfront in SIGMASOFT®

SIGMA® (www.sigmasoft.de) is 100% owned by MAGMA® (www.magmasoft.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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