

Press Release



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Multi-component applications Innovative LSR Processes Set-up Virtually

Testing new concepts with SIGMASOFT® Virtual Molding

In the challenging processing of LSR, innovative concepts play a key role, to make the best out of the narrow processing window. With SIGMASOFT® Virtual Molding processors try new approaches without wasting resources. The software early identifies risks in the mold concept and process definition, and allows testing possible solutions quickly and cost-efficiently.

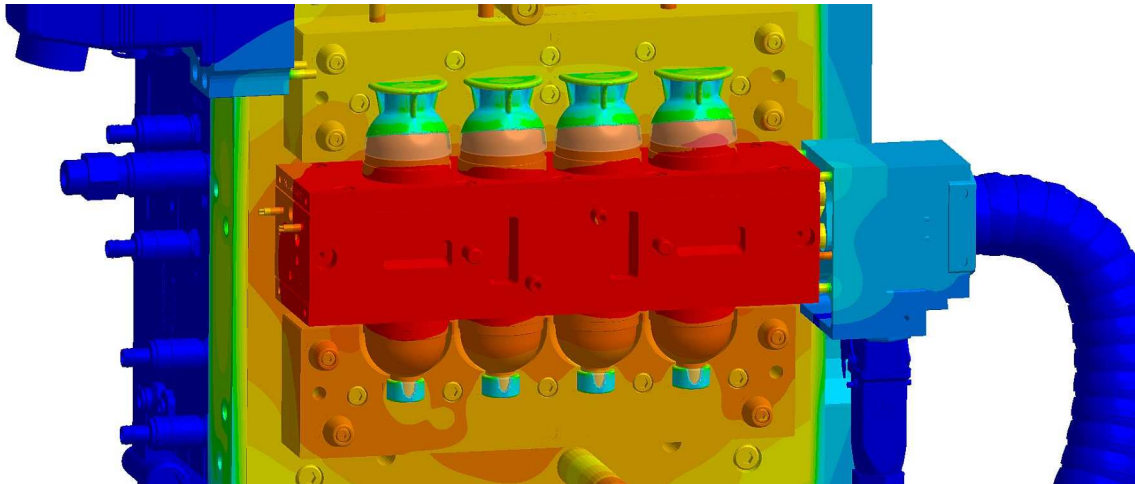


Figure 1 – The process design of the 2-component egg cup on the modified 1-component machine was done with SIGMASOFT® Virtual Molding in advance

Innovative LSR Processes Set-up Virtually

Aachen, October 19th, 2016 – During the processing of liquid silicone rubber (LSR) SIGMASOFT® Virtual Molding is a vital tool. Because of their particular rheology and cross linking kinetics, LSRs only allow for a narrow processing window and thus present some challenges to the processor. These circumstances have however motivated a number of innovations, to fully exploit the potential of the material. Precisely during the application of new ideas and innovative concepts, virtual processing feasibility studies support not only cost reduction, but also the risk-free trial of innovations, easily and simply.

In cooperation with ELMET Elastomere Produktions- und Dienstleistungs-GmbH and Momentive Performance Materials Inc., SIGMA Engineering GmbH demonstrates at K 2016 (Hall 13, B31) innovative LSR processing. Through a newly developed adaptable unit, ELMET makes it possible to produce 2-component applications with existing 1-component LSR machines. During K show, ELMET demonstrates this novelty at the Momentive booth (Hall6, B15) using as example a 2-component egg cup, produced in a 4+4 mold on a modified Arburg Allrounder 470 A.

With the aid of SIGMASOFT® Virtual Molding it was possible to try upfront whether the project was practicable with the planned combination of material, mold, machine and process parameters. The processability of the chosen Silopren LSR 2670 at the plunger pump of the adaptable unit was one of the main questions during the evaluation. The simulation in the virtual injection molding machine helped to find the necessary filling time, demanded pressure and finally the optimal material, without wasting resources and without the danger of damaging the real adaptable unit. Its potential was exploited without the need for long trial and error and the complete process was optimally designed. The virtual production, as well as the application possibilities of the software through the whole product development chain are demonstrated to visitors at SIGMA's booth.

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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