Press Release

Contact:
B.Sc. Vanessa Schwittay
v.schwittay@sigmasoft.de
+49-241-89495-0
Kackertstr. 11
D-52072 – Aachen, Germany

PORTUGAL - Lisboa - Batalha
moldplas
Hall 1 - stand 1D07

SIGMASOFT® Virtual Molding changes the Game Rules in Mold Making

Mold trials are possible from CAD with a virtual injection molding machine

A revolutionary technology will be presented at Moldplas. With SIGMASOFT® Virtual Molding it is possible to perform mold trials already from the mold design, instead of waiting until the mold is manufactured. Huge time and costs savings can be achieved, as the cycle time, mold part quality and mold design can be optimized upfront, and there are no surprises when production starts with the mold.

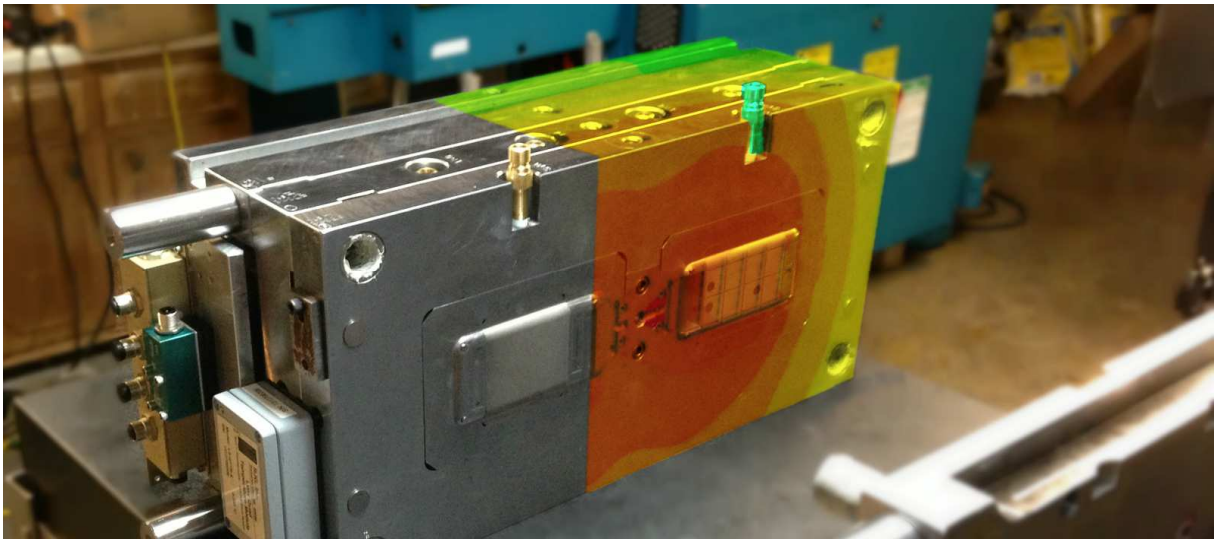

Figure 1 –SIGMASOFT® Virtual Molding can predict upfront how the complete mold will perform in production.

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Aachen, September 17th 2015 – During Moldplas, between October 28th and 31st in Batalha, Portugal, the German company SIGMA Engineering GmbH presents in Hall 1, Stand 1D7 its revolutionary technology SIGMASOFT® Virtual Molding, which makes it possible for the very first time to fully predict the performance of a mold virtually.

Until now, it was necessary to first design and then build a mold only to find out weeks later if something went wrong. Typically, when the mold is tried out for the first time in an injection molding machine, some further iteration is required until the mold works properly. This iteration is costly and it may take even weeks, in a situation where the possible changes are very limited.

With the new SIGMASOFT® Virtual Molding technology, which works as a virtual injection molding machine, it is possible to know upfront how the mold will perform, avoiding this costly iteration. For example, it is possible to determine if a given steel alloy will work best, or how to place the cooling lines to achieve better mold tempering. It is also possible to understand how the ejection system will work, and whether it will damage the part due to excessive contact pressure, or instead, whether it will not be enough to demold the part. Part quality can also be assured from the mold design. It is possible to accurately predict the cycle time, and to visualize part defects such as voids, flow marks or burns due to insufficient venting.

One of the most valuable resources available through SIGMASOFT® Virtual Molding is that several scenarios can be tried inexpensively. Now it is not necessary to design a mold based on experience and hope that it will work, it is possible to change the concept and understand why a given layout works best. “Mold making stops being magic, it is now possible to fully understand how a mold will work and why a given configuration is optimal. The results are clear for everyone to see and can be convincingly communicated to the whole team, from sales and quotation, going over the mold shop up to the injection molder”, states Timo Gebauer, SIGMA Chief Technical Officer.

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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