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## USER REPORT

Schwarz Plastic Solutions GmbH, Precupa GmbH, Germany

### **WITTMANN BATTENFELD, Schwarz Plastic Solutions and Precupa Präzisionsformenbau cooperate in the area of reactive plastics**

*In December 2020, Ingo Schwarz, Managing Director of Schwarz Plastic Solutions GmbH, Thomas März, Managing Director of Precupa GmbH and Andreas Schramm, Managing Director of WITTMANN BATTENFELD Deutschland GmbH together with Rainer Weingraber, Managing Director and CEO of WITTMANN BATTENFELD GmbH in Kottlingbrunn / Austria signed a contract for cooperation in the area of reactive plastics. The objective of this cooperation agreement is to advance the technologies in the fields of thermoset injection molding and processing of other reactive plastic materials, as well as to strengthen the participating companies in the thermoset processing business.*

The conviction that thermosets and other reactive plastic materials are gaining more and more significance above all in the electrical engineering sector has prompted the above-mentioned companies to pool their expertise in machine and automation technology, process technology and mold technology.

Schwarz Plastic Solutions is a technology service provider domiciled in Gilching, near Munich. This company supports plastics processors in all matters relating to thermosets, such as the selection of suitable thermosets, optimization of components, filling simulations, thermal layout of molds or strength calculations (FEA). Its range of services also includes user training courses and material characterizations. Schwarz Plastic Solutions has close relations to well-known OEMs and component suppliers and has good contacts to raw material suppliers as well. The company also cooperates with several universities, including some outside Germany.

Precupa is based in Gaissach, near Bad Tölz, and engages in high-precision mold making. This company with its 40 associates produces injection molding tools with weights of up to 3.5 tons and dimensions of up to 600 x 600 mm. In addition to its

know-how in the area of thermoset molds, Precupa also has extensive experience with molds for processing of thermosets and LSR. A recently completed, in-house technical lab is available for sampling. Schwarz Plastic Solutions and Precupa will use this lab to produce samples with customers' molds as well as for thermoset training courses.

Prof. Dr. Ing. Sascha English from Steinbeis University Berlin provides the partnership with scientific support.

Precupa und Schwarz Plastic Solutions have jointly invested in an ultra-modern injection molding machine from WITTMANN BATTENFELD specially equipped for thermoset processing. This acquisition was generously supported by WITTMANN BATTENFELD as part of the cooperation agreement with these two companies.

This machine is a servo-hydraulic model from the *SmartPower* series with 2,400 kN clamping force. The *SmartPower* XL 240/3400 UNILOG B8 machine is equipped with a number of several different plasticizing systems and consequently very versatile. It is capable of producing parts with small shot weights and dimensions of up to 200 cm<sup>3</sup>, but also large shot weights with volumes of up to 1.500 cm<sup>3</sup>, such as an encapsulation for electric motors, or over-molding of inserts. Materials which can be processed include both granulated thermosets and pasty materials, such as wet polyester (BMC). With applications for parts exposed to high mechanical strain in view, the machine also comes with an additional hydraulic unit, which offers high additional compression forces for processes such as injection compression or injection stamping.

An innovative, modular thermoset mold facilitates extensive processing test series, including material tests and analyses. A large package of exchangeable inserts enables the production of testing samples, tests with winding goods (e-mobility) and rheological examinations. On the basis of the cooperation partners' own technical equipment, both process technological and scientific-analytical evaluations and assessments of the tests are feasible. Thanks to a further cooperation agreement between Schwarz Plastic Solutions and the Netzsch Group, extensive sensor systems and evaluation facilities are also available inside the mold.

According to Andreas Schramm, the cooperation with Schwarz Plastic Solutions and Precupa is very promising: "With this partnership, we will be able to meet the challenges of the thermoset market with competence and to drive the advancement of thermoset processing technology."



**Fig.:** from the left: Andreas Schramm, Managing Director WITTMANN BATTENFELD Deutschland GmbH, Thomas März, Managing Director Procupa GmbH, Ingo Schwarz, Managing Director Schwarz Plastic Solutions GmbH, Gottfried Hausladen, Sales WITTMANN BATTENFELD Deutschland

## The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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