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WITTMANN BATTENFELD at the DKT in Nuremberg

WITTMANN BATTENFELD with smart LSR application at the DKT in Nuremberg

From 27 to 30 June 2022, WITTMANN BATTENFELD will present state-of-the-art injection molding technology for LSR processing to visitors of the German Rubber Conference DKT in Nuremberg at its booth No. 503 in hall 9.

WITTMANN BATTENFELD has already been active in the field of LSR processing for a number of years. The DKT is an important platform for the WITTMANN Group to demonstrate its expertise in this field to a wide professional audience.

Two exhibits will be showcased at this year's DKT. Firstly, liquid silicone processing will be shown on a machine from the servo-hydraulic *SmartPower* series. Apart from their compact footprint and user-friendliness, the machines of this series stand out primarily by their intelligent and economical energy utilization achieved by a fast-response, speed-controlled, air-cooled servo motor combined with a highly efficient constant displacement pump. Secondly, the production of a micro part with a silicone membrane will be presented on a multi-component *MicroPower* machine specially designed for manufacturing micro parts.

With a multi-component machine from the servo-hydraulic *SmartPower* series, a *SmartPower* 120/130H/130S COMBIMOULD LSR, a mobile phone holder will be manufactured from PC and LSR, using a 1+1 transfer mold with a needle shut-off cold runner supplied by Elmet, Austria. The machine will be equipped with a W921 robot, a TEMPRO plus D2 140 dual-circuit temperature controller and an ATON plus 30 dryer, all from WITTMANN, as well as a Top 5000P metering pump from Elmet. The LSR used from Momentive is Siloprene LSR 2759, a material characterized by excellent adhesion to the PC provided by Covestro. The material loading system for the thermoplastic component is geared to handling extremely small quantities, to avoid remoisturizing after transport.

LSR processing in the area of micro parts will be demonstrated by producing a support ring with a silicone membrane on a *MicroPower* 15/10H/10H COMBIMOULD LSR. This micro part, manufactured in a 2C process, is used in industrial measurement technology. The 8-cavity mold used to manufacture these parts was produced in cooperation with Nexus. The materials used are polycarbonate

(Macrolon) supplied by Covestro and a self-adhesive LSR (Siloprene) from Momentive. The silicone membrane of the support ring, no more than 20 µm thick, makes it possible to transmit accurately even the most minute pressure variations between two different media. The LSR is fed to the machine from cartridges, the material flows are measured by a liquid dosing unit designed for quantities in the microliter range. Simultaneously, the high material quality is documented and transmitted to the machine's B8 control system via an OPC-UA interface (Euromap 82.3). The "Servomix X1" liquid dosing unit contributed by Nexus completes the package.

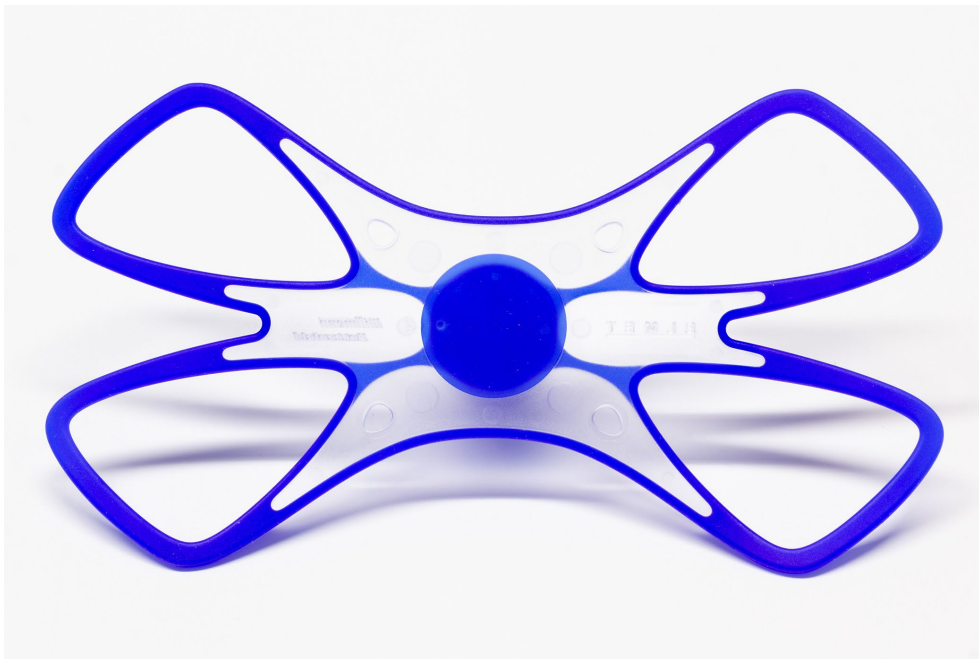


Fig. 1: Mobile phone holder from PC and LSR



Fig. 2: *MicroPower 15/10H/10H COMBIMOULD* with liquid dosing unit *Servomix X1* for LSR

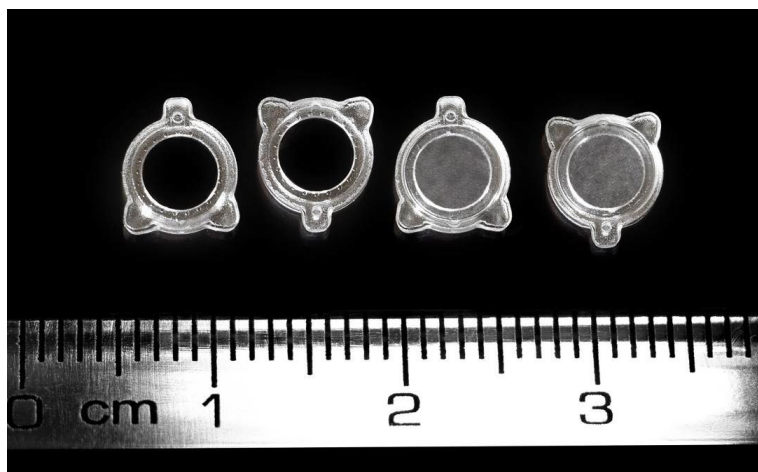


Fig. 3: Support ring with silicone membrane

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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