

October 2020, Kottlingbrunn/Austria

## PRESS RELEASE

WITTMANN BATTENFELD Highlights 2020 – LSR injection molding

### **LSR application on *SmartPower* 120**

***LSR (liquid silicone rubber) processing, an important technology for WITTMANN BATTENFELD, will be demonstrated by the production of a composite LSR part on a machine from the servo-hydraulic SmartPower series. A SmartPower 120/350 will be equipped with a 2-cavity mold supplied by Nexus, Austria, to produce a “Drinky” immediately ready for use. The “Drinky” is a drink timer, or drink manager, which reminds us to drink enough and at regular intervals.***

The LSR material from DOW's SILASTIC™ LTC 9400 series recommends itself primarily by cross-linking at low temperatures. This is a vital attribute in producing the “Drinky” drink manager, since the part to be inserted into the mold and overmolded there is a PCB (printed circuit board) fitted with battery cells. Both electronic components and battery cells have only a limited temperature resistance. Battery cells, for example, can withstand a thermal load of up to about 120 °C only for a short time and were previously in similar applications always inserted into their housing by an additional downstream production step.

The innovation in the case of the “Drinky” does not concern the drinking manager itself, but rather its manufacturing process. Here, the entire electronic system including the batteries is overmolded with LSR in just one production step at very low mold temperatures of about 100 °C (mold temperatures normally lie around 185 °C). In this way, the assembly of individual components and a thermoplastic housing are dispensed with. In this innovative process, the insert is overmolded directly inside the mold, and it is ready for use immediately after demolding without needing any further assembly step. This type of process can be applied to all assemblies which are sensitive to thermal load.

To enable the setting or accelerating of the cross-linking process, an acceleration additive is blended in.

Both the Silastic LTC 9400-50 LSR and the acceleration additive are fed into the *SmartPower* 120 by a Servomix X200 dosing unit from Nexus. The open design of

the injection unit allows easy integration of the dosing unit, which is connected to the machine via the OPC UA interface. Latest cold runner technology with the FLOWSET needle shut-off control is used for the mold. One important feature inside the mold is the precise match of the embossing edges with the circuit board and the SMD parts.

The inserts, which lie in the correct position in a magazine, are picked up by the double gripper of a W918 robot from WITTMANN. Following removal of the finished parts, the robot inserts the electronic circuit boards into the 2-cavity mold. The finished overmolded parts are subsequently deposited on a conveyor belt. After the “Drinkys” have cooled down, they are individually packed in a packaging machine supplied by Ravizza Packaging, Italy.

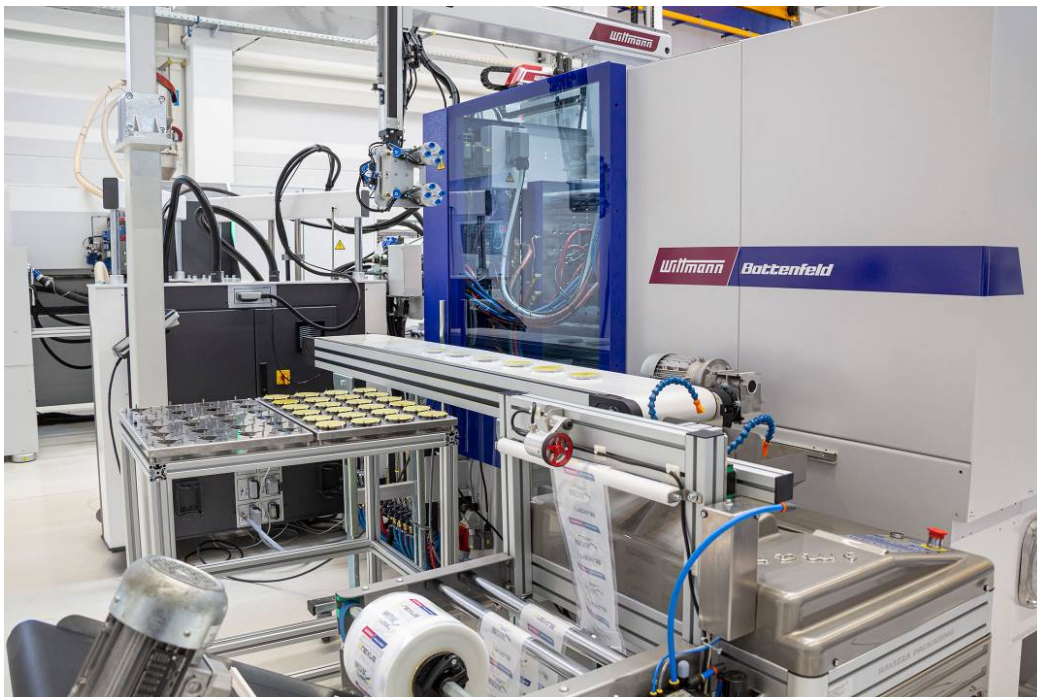
When a drinking glass is placed on the “Drinky”, a pre-programmed timer is activated, which reminds us every 10 minutes that we should consume enough liquid. The reminder comes in the form of a flashing light signal.



**Fig. 1:** *SmartPower 120/350 LSR*



**Fig. 2:** SmartPower 120/350 LSR – 2-cavity mold for insertion of printed circuit boards



**Fig. 3:** SmartPower 120/350 LSR – parts deposit and packing station



**Fig. 4:** SmartPower 120/350 LSR – Servomix X200 dosing unit



**Fig. 5** from left to right: finished "Drinky" drink manager, PCB fitted with battery cells

## **The WITTMANN Group**

The WITTMANN Group is a worldwide leader in the production of injection molding machines, robots and auxiliaries for the plastics processing industry, headquartered in Vienna/Austria and consisting of two main divisions: WITTMANN BATTENFELD and WITTMANN. They jointly operate the companies of the group with eight production plants in five countries, and its additional sales and service companies are active with 34 facilities on all important plastics markets around the world.

WITTMANN BATTENFELD pursues the further expansion of its market position as an injection molding machine manufacturer and specialist for state-of-the-art process technologies. As a supplier of comprehensive, modern machine technology in modular design, the company meets both present and future market demands for plastics injection molding equipment.

The WITTMANN product portfolio includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. With this diversified range of auxiliaries, WITTMANN offers plastics processors solutions to cover all production requirements, ranging from independent production cells to integrated plant-wide systems.

The syndication of the various segments under the umbrella of the WITTMANN Group has led to complete connectivity between the various product lines, for the benefit of plastics processors with an increasing demand for seamless integration of processing machinery with automation and auxiliaries.

### **Contact:**

#### **WITTMANN BATTENFELD GmbH**

Wiener Neustädter Strasse 81

2542 Kottlingbrunn, Austria

Tel.: +43 2252 404-0

[info@wittmann-group.com](mailto:info@wittmann-group.com)

[www.wittmann-group.com](http://www.wittmann-group.com)