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PRESS RELEASE

WITTMANN BATTENFELD at the K 2022

Alternative materials processing on EcoPower Insider with Unilog B8X and HiQ user software

At the K fair in Düsseldorf, WITTMANN BATTENFELD is presenting an application using a renewable raw material at the Circular Economy Forum of VDMA, open air space, booth -CE10. On an EcoPower 110/350, equipped with the new B8X control system and designed as an Insider cell, bio building blocks are manufactured from Fasal with an 8-cavity mold supplied by Bioblo, Austria.

Fasal is a compound made by Fasal Wood GmbH, Austria, consisting of wood flour and post-industrial polypropylene supplied by Borealis, Austria. As part of the Insider solution, the automation equipment is included in the delivery together with the injection molding machine. The integration of a WITTMANN parts removal robot, a conveyor belt and other upstream and downstream auxiliaries into the machine frame makes the Insider cell a compact, space-saving unit. The whole package is rounded off by full integration of the robot. By this option, the Unilog B8 control system becomes the central operating terminal for the machine and the robot. This solution offers a number of advantages, such as the possibility of a simplified system startup, as well as simplified data management (joint data backup for mold data and robot program) and synchronization of movements for cycle optimization.

An outstanding feature of this system is its extremely low traverse height by comparison to standard pick & place applications, which offers a substantial advantage in terms of cycle time. The particularly low overall height of the Insider cell is also ideal for production halls with low crane tracks. The Insider cell can also be optimally combined with the Primus robot series, which considerably reduces its overall acquisition costs. The conveyor belt is mounted in a flexibly adjustable way to the protective gate at the rear. When the protective gate is opened, the conveyor belt can also be moved along with it. This ensures barrier-free access to the mold area. The free space under the conveyor belt can also be used for setting up temperature controllers and/or granulators.

The cell presented at the K is equipped with a W918 robot from WITTMANN, a conveyor belt and a WITTMANN S-Max 3 screenless granulator. The molded parts and the sprue are removed by the W918 robot, and the sprue is passed on directly to the granulator, where it is ground and then returned to the process. The finished parts are deposited on the integrated conveyor belt, transported to a flow wrapping machine and packaged. The tubular packaging bags are made of the Bornewables™ FB4370 material from Borealis. The Simplicita Bag Smart 400H machine from Ravizza Packaging, Italy, is a versatile and flexible solution for any type of packaging. A printing unit integrated into the machine allows the bag to be customized with alphanumeric characters, logos, barcodes and the like.

To ensure top quality for the parts, the software packages HiQ Metering for active closing of the check valve and HiQ Melt for measuring the MFI are used in addition to HiQ Flow.

With the new HiQ Melt application software, some relevant process technology parameters can be visualized. Firstly, the average dwell time of the plastic material to be processed is shown, so that it can be compared with the specifications provided by the material producer. Secondly, the utilization rate of the maximum screw path is displayed. These two values supply good basic information to the machine operator as to whether the current process settings suit the plastic material to be processed.

Many users are faced with the problem of lacking information about the melt behavior of the plastic material, and as to whether its flow behavior changes in the course of production. This behavior is described by the MFI or MFR indicated by the material producer within a certain bandwidth, but the exact value for the current material batch is not documented. With the new HiQ Melt Premium software, WITTMANN BATTENFELD offers a solution to this problem by having the so-called melt index calculated and compared with a reference value directly in the machine’s control system. In this way, machine setters receive direct information about and documentation of any viscosity fluctuations during metering. This makes it possible for them to respond immediately to any changes. Our already established HiQ Flow software automatically supports machine setters in such cases, even within the same shot in which the viscosity change occurs, and without any need for them to intervene personally. This not only makes the product quality more consistent, but also helps to keep the production stable in spite of fluctuations caused, for example, by the use of regrind, and even during night shifts. This facilitates the work of machine setters and increases production stability as well.

Fig. 1: EcoPower 110/350

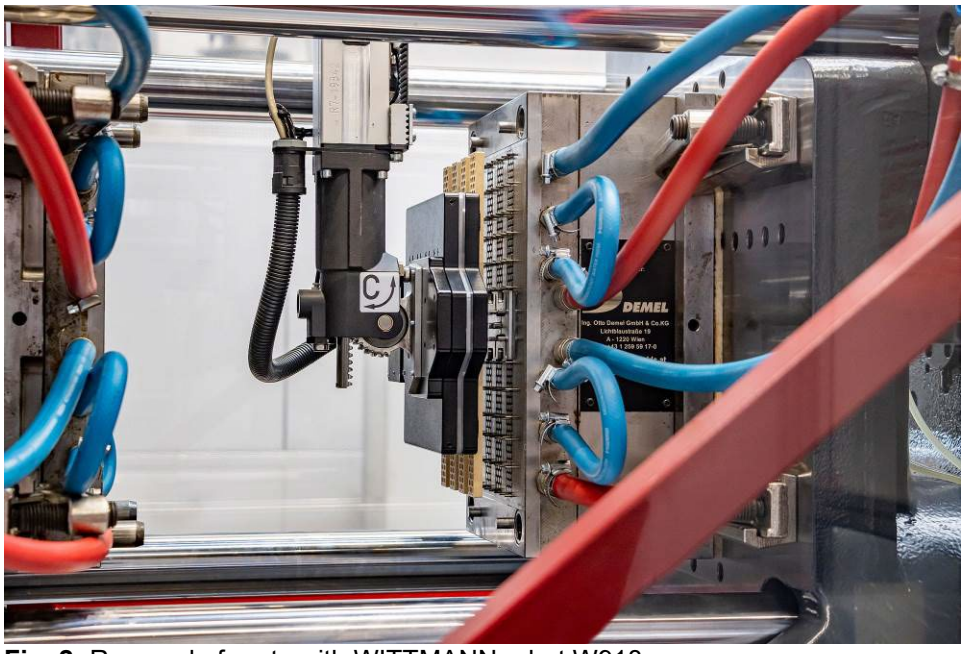

Fig. 2: Removal of parts with WITTMANN robot W918

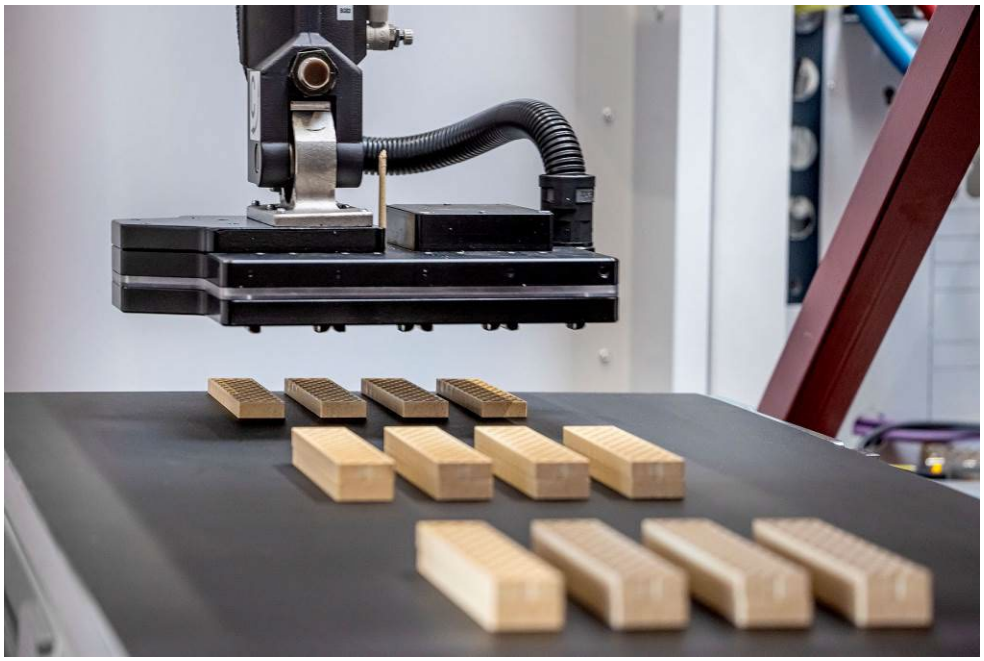

Fig. 3: The parts are stacked and deposited on a conveyor belt.

Fig. 4: WITTMANN Zahnwalzenmühle S-Max 3

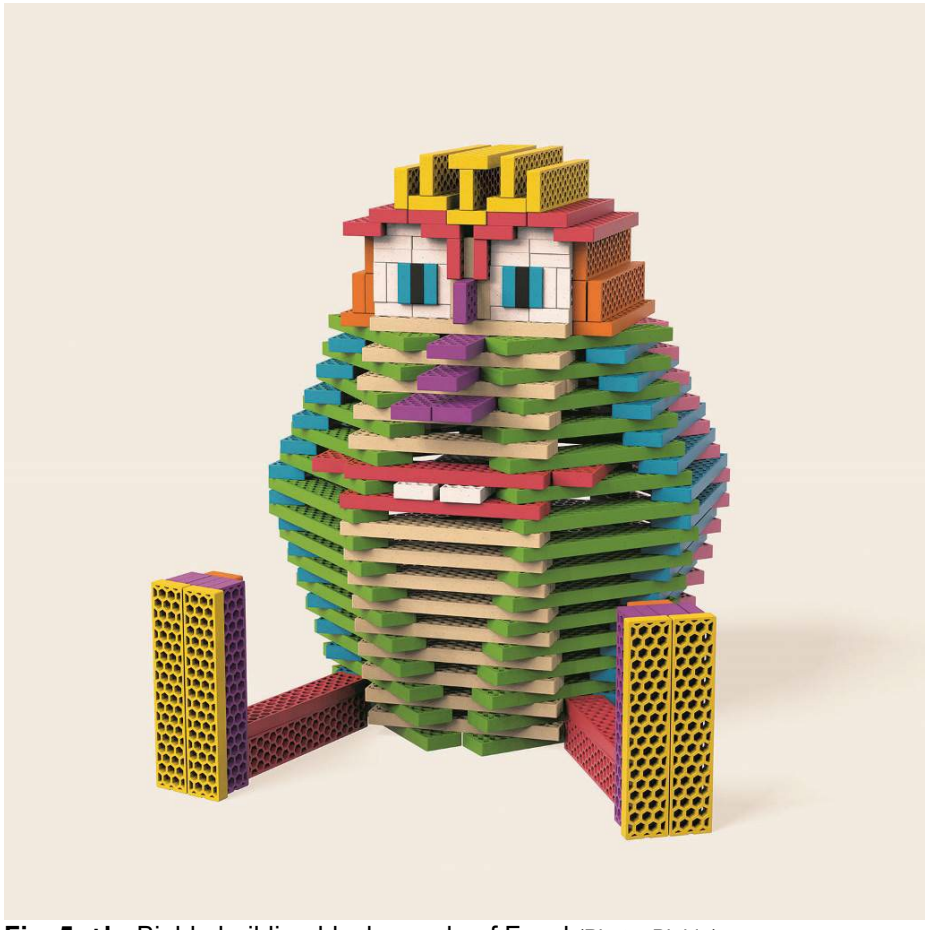

Fig. 5a+b: Bioblo building blocks made of Fasal (Photo: Bioblo)

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.

Contact:

WITTMANN BATTENFELD GmbH
Wiener Neustädter Strasse 81
2542 Kottingbrunn, Austria
Tel.: +43 2252 404-1400
gabriele.hopf@wittmann-group.com
www.wittmann-group.com