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**Press release**

* **BBG innovations in toolmaking: PUR gate trimmer and zigzag venting slider**
* **Patent-pending innovations increase productivity: faster production with less material input and higher quality**
* **Presentation on the 4th Innovation Day at Mindelheim on 17 May**

*Mindelheim/Germany, 4. June 2019.* The system provider BBG presented two patent-pending tooling innovations for polyurethane (PUR) encapsulation: a gate trimmer and a zigzag venting slider. Both innovations help to improve component quality while saving time and material input. They can be used for all reaction injection molding (RIM) processes. Both were demonstrated at the 4th Innovation Day organized by the tool, machine and plant manufacturer at Mindelheim in mid-May.

**Higher level of component quality, faster production and reduced material input**

A new gate trimmer developed by BBG enhances the quality of PUR components, accelerates production and reduces material input. It consists of simple mechanical components, is maintenance-free and can be fitted in almost any tool. Contrary to conventional components, the trimmer comes with a considerably shorter gate runner and a slider that closes the mold once it has been filled with PUR. This design allows polyurethane to be injected into the mold cavity in a V-shape, which ensures a particularly uniform material flow and minimizes air inclusions. After the mold has been filled, the trimmer is activated and separates the gate from the manufactured component in the mold. The component can then be removed from the mold without requiring any reworking.

**Safe, easy-to-control process**

The movement of the trimmer can be easily controlled via a connection to the machine control system. The trimmer contour is adapted to the component so as to maintain the component design.

**Faster production with less material input and higher quality**

The innovation was demonstrated at the Innovation Day during the PUR encapsulation of a 300 x 300 mm glass panel in a sample mold. Bernhard Satzger, Senior Sales and Project Manager at BBG, used this example to calculate the potential cost benefits. The new gate trimmer, for example, helps to save more than 1,000 working hours with an annual production of 50,000 components in five years. He calculated 15 seconds for the elimination of reworking steps such as trimming, deburring and grinding in a conventional production line. Moreover, 10 grams less PUR is required per component, which adds up to a material saving of 2,500 kg within five years on the basis of the same calculation example.

The innovation also avoids quality problems that result from excessive piston pressure. Until now, component defects have usually been caused by damage to polystyrene inserts and sealing elements for sheet metal flaps as well as surfaces. The part was either rejected or required cost-intensive and time-consuming reworking.

**Zigzag venting slider - reliable and fast**

With a zigzag venting slider, BBG reliably solves the problem of unwanted air inclusions, which occurs especially during the PUR encapsulation of components with large cross-sections and complex geometries. It is integrated into the mold and can be variably adapted to the geometric design of the component at hand. It guides air through a zigzag gap into a chamber, the air collector. The benefit over conventional solutions: so far, either several sliders were necessary or venting had to be provided via the mold interface.

**No modifications to component design and no rework**

The zigzag venting slider eliminates the need for production-related grooves and slits, which are ground into the mold for most methods used to remove air inclusions. This avoids both a change in component design, which would otherwise be necessary, and the need for time-consuming trimming work after encapsulation.

Bernhard Satzger, the inventor of both innovations, summarizes the advantages of the PUR gate trimmer and zigzag venting slider: "Both innovations improve component quality and increase productivity because rejects are reduced and rework times are eliminated.“

**BBG’s customers are active the world over**

BBG GmbH & Co. KG, a manufacturer of molds, machinery and plants, is a renowned specialist for the plastics-processing industry. In addition to end-to-end production facilities, we design, develop and produce molds for the processing of polyurethane (PUR), PVC, TPE and other elastomers as well as a wide range of fiber-reinforced materials. This includes production processes such as PUR-CSM (PUR Composite Spray Molding), LFI (Long Fiber Injection), RTM (Resin Transfer Molding), SMC (Sheet Molding Compound) or GMT (Glass Mat reinforced Thermoplastics), which are selected depending on the desired qualities of the finished products. Further important areas include solutions for light-weight design, the processing of composites and the manufacturing of components made of fiber-reinforced plastics for a large number of industries.

BBG, the family-owned business, which is located in Mindelheim/Allgäu and is run by Hans Brandner, the managing partner, supply their products to their customers all over the world, with the Asian market playing an important role in addition to the markets in Europe and North America. With a headcount of around 170, BBG generated worldwide sales to the tune of 27 million Euros in 2018.

**Photos:**

**Detailed photos of the two innovations will only be published by BBG once the patent applications have been filed.**

Ein Bild, das Person, drinnen, Mann, Gebäude enthält.

Automatisch generierte Beschreibung

Photo 1:

On its 4th Innovation Day, which took place on 17 May at Mindelheim, the system provider BBG presented two patent-pending innovations for polyurethane (PUR) encapsulation molds: a gate trimmer and a zigzag venting slider (Photo: BBG GmbH & Co. KG).

Ein Bild, das drinnen, Boden, Wand, Tisch enthält.

Automatisch generierte Beschreibung

Photo 2:

The gate trimmer and the zigzag venting slider help to improve component quality while saving time and material. They can be used for all reaction injection molding (RIM) processes (Photo: BBG GmbH & Co. KG).

Ein Bild, das drinnen, Boden enthält.

Automatisch generierte Beschreibung

Photo 3:

The innovations were demonstrated at the Innovation Day during the PUR encapsulation of a 300 x 300 mm glass panel in a sample mold. (Photo: BBG GmbH & Co. KG).

Ein Bild, das Person, drinnen, Computer, Laptop enthält.

Automatisch generierte Beschreibung

Photo 4:

The zigzag venting slider eliminates the need for production-related grooves and slits, which are ground into the mold for most methods used to remove air inclusions. This avoids both the change in component design, which would otherwise be necessary, and the need for time-consuming trimming work after encapsulation (Photo: BBG GmbH & Co. KG).

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