

* **Explosion-proof PUR molds for** **thermal insulation in medical and hot water engineering**
* **Pentane gas improves insulation and reduces production times**

*Mindelheim, 25 June 2025.* A system partner for the plastics processing industry, BBG manufactures an increasing number of explosion-proof molds and support molds for polyurethane foaming. These molds are used when pentane gas is added to the rigid polyurethane foam during processing. Typical applications include the thermal insulation of hot water tanks, transport boxes for blood reserves and vaccines or temperature-controlled laboratory equipment such as centrifuges.

**Molds in sizes from small to large**

BBG develops and manufactures customized molds and tools for rigid PUR foam for thermal insulation in varying sizes and degrees of complexity. The range starts with simple manual designs and extends to universal molds that can be used for insulating different sizes of a component. They facilitate cost-effective production even with a large variety of types.

**Automatic self-cleaning feature**

For mold cleaning, BBG uses a technology that discharges excess PUR via venting chambers in the lid. Cleaning is then performed in an automatic process without the need for any further manual reworking.

In addition to stand-alone solutions that include a mold and a PUR system for the manual production of small quantities, BBG also offers partially and fully automated systems. For high-volume production, the company produces molds for in-line or rotary production systems.

**Pentane admixture requires explosion-proof molds**

Highly flammable gases such as pentane are used in PUR rigid foam production to an increasing extent. In addition to its global warming potential (GWP), which is more environmentally friendly than that of other propellants, and its low price, the advantages of the material include its efficient foam formation, as it creates a fine-cell structure with good insulating properties. Moreover, the encapsulation process is shortened, which leads to faster production cycles.

However, molds and production facilities must be designed to be explosion-proof and equipped with suitable ventilation and monitoring systems. Furthermore, development, manufacturing and operation require specifically trained personnel and compliance with strict regulations.

**More demand: Investment in new PUR system**

In view of the increasing demand for rigid-foam molds, BBG is planning to install an additional PUR system in its pilot plant. The company is thus expanding its capacities for sampling and optimizing molds.

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

BBG GmbH & Co. KG is an international system partner for the plastics processing industry with its own mold, machine and plant construction. In addition to end-to-end production lines, BBG designs, develops and manufactures molds for processing polyurethane (PUR), PVC, TPE and other elastomers, as well as a wide range of fiber composite materials. The company also focuses on solutions for lightweight construction, the processing of composites and the production of fiber composite components in a large number of industries.

BBG, the family-owned business, which is run by Hans Brandner and is located in Mindelheim/Allgäu, supply their products to their customers all over the world, with the North American market playing an important role in addition to the markets in Europe and Asia. The company is represented by its own subsidiaries in China, the USA and Mexico. With a headcount of around 170, BBG generated worldwide sales to the tune of 27 million euros in 2024.

**Photos:**

Ein Bild, das Waschbecken, Im Haus, Person enthält.

KI-generierte Inhalte können fehlerhaft sein.

Photo 1:

Centrifuge for laboratory applications with thermal insulation (Photo: Istockphoto/Shangarey).

Ein Bild, das Bautechnik, Stahl, Maschine, Leiter enthält.

KI-generierte Inhalte können fehlerhaft sein.

Photo 2:

A system partner for the plastics processing industry, BBG manufactures an increasing number of explosion-proof molds and support molds (see photo) for foaming polyurethane (Photo: BBG).

Ein Bild, das Maschine, Bautechnik, Im Haus, Stahl enthält.

KI-generierte Inhalte können fehlerhaft sein.

Photo 3:

Insulation of a hot water tank: The stainless steel tank is placed in the opened mold , then inserts such as hinges and caps are added. After closing, PUR is injected into the mold, foams up and fills all cavities between the mold and the tank. Excess PUR is discharged via a vent in the lid (Photo: BBG).

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