3-Component STREAMLINE metering machine in the Hennecke TECHCENTER: Hennecke invests in the future of fibre composite components

With a fully equipped 3-Component metering machine of the type STREAMLINE, PU specialist Hennecke expands its performance capability in the field of research and development. The machine system features all the necessary requirements for the production of fibre composite components by means of a wide variety of matrix systems in the HP-RTM process. It is readily available to Hennecke customers at the in-house TECHCENTER.

Cumulative know-how of fibre composite components production (from left to right): Jens Winiarz (Head of Sales Composites & Advanced Applications), Jens Geuer (Product Manager Lightweight Technologies), and Jürgen Wirth (Manager Application & Development Technology) in front of the new 3-Component STREAMLINE in the Hennecke TECHCENTER.

In the Hennecke TECHCENTER, operators can use both Hennecke's state-of-the-art polyurethane processing technology and know-how to develop and optimize products and also to test raw materials and processes under close-to-production conditions. In order to give the 1,000 m² research and development center a greater performance capacity and further accelerate innovations, the company has recently invested in a tailor-made 3-Component STREAMLINE metering machine, which is able

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to process all current matrix systems of fibre composite components. These include polyurethane, epoxy or reactive polyamide 6 raw material systems. “In the TECHCENTER, all reactive matrix materials available on the market can now be used to produce fibre composite components on a metering machine for the first time,” explains Jürgen Wirth, Manager Application and Development Technology. “The major benefit is that a variety of matrix systems incompatible with each other can now be processed in very quick succession, as the integration of three individual metering lines minimizes complex rinsing and cleaning processes.”

Hennecke thus responds to the ongoing trend of light-weight construction using fibre composite components. These usually consist of a fibres layer and a matrix material which surrounds the fibres and gives the component its solid form. Glass, carbon, aramid, metal and natural fibres can be used as fibres, for example. The thermosetting matrix systems may consist of polyurethane or epoxy resin. The reactive polyamide 6 is available as a thermoplastic matrix system. It is the only system, which ideally combines with the conventional injection moulding process. “This opens numerous possibilities for the product development of composite fibre components in the groundbreaking T-RTM field of application,” Wirth emphasizes. Specifically for this purpose, Hennecke is able to provide customers in the TECHCENTER with an ENGEL company-manufactured injection moulding machine.

In the field of tool technology, too, Hennecke is excellently positioned. Various vacuum units, mould carriers and presses can be used to interact with the new metering machine, in order to guarantee an ideal process workflow. All mixhead systems available with Hennecke are also compatible.

In addition to the extensive machine technology and the process technology experts, experienced chemists bring their know-how to the TECHCENTER to find the optimal solution on equal footing with raw material suppliers and operators. Furthermore, the specialists are also able to develop new process combinations, thanks to the flexible design of the research and development center. The following technologies are housed in the approx. 1,000 square metres of Hennecke’s TECHCENTER:

- Processing of PU-based rigid, flexible and integral skin foams, elastomers as well as epoxy resin systems and the reactive polyamide 6 (T-RTM)
- Application of the RIM, RRIM, SRIM, PUR-CSM fibre composite, clearmelt®, Skinmelt and Sprayskin processing methods and HP-RTM applications
- Hand or robotically operated pouring of reaction mixture into open and closed moulds

Operators are welcome to register for the TECHCENTER services on the Hennecke website.

Further information and public relations

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