



Hennecke at the JEC Europe from 10 - 12 March 2015 in Paris (Pavillon 7.2, Stand Q42)

Lightweight construction made easy

The issue of lightweight construction cannot be ignored by any automobile manufacturer today. The number of innovative composite parts in vehicles is constantly growing. At this year's JEC Europe Composites Show and Conference in Paris, Hennecke will present a lightweight roof and a carbon seat shell to show how ultra-short cycle times and an optimised overall process allow such high-quality fibre composite parts to be produced economically on a large scale.



Material mix of polyurethane, glass fibre and paper honeycomb: lightweight roof for the smart "fortwo"

Hennecke's expertise gained from nearly 80 high-volume production lines for load floors and sliding roofs in paper honeycomb sandwich structure all over the world is concentrated in the first exterior sandwich component that is produced in large lot sizes. The innovative lightweight roof developed by Fehrer Composite Components for the new smart fortwo consists of a material mix of polyurethane, glass fibre and paper honeycomb and is coated with a thermoplastic outer skin. It provides the same stability as the series roof of its predecessor while being 30 percent lighter. Compared to

traditional composite parts, the individual layers are not bonded in a complex, multi-step process, but in a single operation. This "one-shot process" is becoming more and more popular. Products are manufactured to be as close to their final contours as possible, and in terms of surface finish can be demoulded without requiring further processing.

Another part on display at Hennecke's booth will be the seat shell for the BMW i3. The carbon fibre component is a consistent combination of lightweight construction and sustainability because it largely consists of carbon fibre recycling material from the production of the BMW i3 car body. And there is another special feature: For the first time, carbon fibre materials combined with a PUR matrix are used in a series-produced car. The production of this innovative composite part is only made possible because of Hennecke's High-Pressure-RTM process (HP-RTM).

In addition, dashboard parts for the Hyundai Kia Automotive Group are presented. The focus here was not on lightweight construction, but on the particularly high quality in terms of look and feel and manufacturing precision. The thermoplastic composites consist of a thermoplastic substrate, a decorative film overlay, and a foam layer made from polyurethane and are manufactured in automated process steps using a single compact plant network. In contrast to other soft-touch production processes, this "Varysoft" process is characterised by even greater softness.

These and other exhibits illustrate how the Hennecke specialists manage to combine state-of-the-art processing systems, long-standing process expertise and innovative high-pressure injection technology into optimally equipped overall systems with much higher performance than conventional metering machines.

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