

## **Revolutionary technologies and automotive highlights demonstrated live: LEONHARD KURZ and ENGEL at K 2022**

Fürth/Germany, 09/08/2022: When we think about the vehicle of tomorrow, we imagine futuristic exterior brand design, 3D lighting effects, and intelligent functions, even on the exterior. All of this is already possible today, as thin-film specialist LEONHARD KURZ will soon demonstrate in cooperation with machine manufacturer ENGEL. The experts in their respective fields have pooled their expertise and will be presenting a future-proof design concept for vehicle rear areas at the leading international plastics trade fair K in Düsseldorf from October 19 to 26, 2022.

### **2K material mix opens up new possibilities**

A groundbreaking innovation is the new machine and process technology, which was developed together with the KURZ subsidiary Schöfer and enables the use of a 2K material mix. Behind the simple abbreviation 2K is a complex technology. The term 2K represents the process 'Dual-component injection molding with IMD technology'. Two different plastics are used here: Acrylonitrile butadiene styrene/polycarbonates (ABS/PC for short) and transparent thermoplastic polymethyl methacrylate (PMMA). "This special blend of materials, allows us, for example, to provide backlighting with targeted light separation - without any undesirable light diffusion. This is the series-ready answer to the market requirements in terms of multi-component technology," explains Martin Hahn, Head of Application, Technology & Innovation in LEONHARD KURZ's Business Area Plastic Decoration. "And best of all, thanks to our careful choice of materials, the components can later be mechanically recycled together. This means that they can be reused as a post-industrial recyclate."

The complex technical application is based on Schöfer's high-end tool technology ('spin stack mold'), which is ideally suited to the production of immediately ready-to-install components with large dimensions and enables the use of In-Mold Decoration technology (IMD) in combination with the 2K material mix. This means

that both three-dimensional component geometries and structures for 3D light effects and light barriers can be implemented in a single, efficient work step. Manufacturers benefit from reduced production complexity that eliminates the need for deep drawing, punching, or stacking.

### **Stunning design and smart features**

KURZ and ENGEL will be demonstrating the application of this innovative process technology at K 2022. The ENGEL machine, which will be producing live at the KURZ stand A19 in hall 5, is already an eye-catcher in itself. Only the product it creates is even more impressive: In front of the trade fair visitors, a component for the rear area of vehicles - a rear-end cover - will be produced and refined. This component harmoniously combines design and functionality. The connected surface impresses with its large, seamless decoration, backlighting, and 3D lighting effects. "This means that the rear-end cover also facilitates communication with other road users," explains Martin Hahn. "Further highlights are only revealed at second glance. The possible integration of touch operation offers, for example, activation of a Shy Tech charge level indicator for e-cars. The component is also permeable to radar waves and supports the latest driver assistance systems - right through to autonomous driving."

### **Multiple functions in a single operation**

The rear-end cover impresses with its intelligent functions, which can be freely combined with one another according to customer requirements. And best of all, thanks to advanced one-shot production, all processes can be implemented in a single work step. "This is made possible by the combination of injection molding, our In-Mold Decoration process (IMD), and the high-end insert technology from Schöfer. For manufacturers, this means time- and cost-efficient production while simultaneously reducing CO<sub>2</sub> emissions," explains Martin Hahn and continues: "Our goal for the future is to develop a production platform for our customers that can be individually tailored to different project requirements. This year, we are demonstrating the further development of our IMD DECOPUR® technology, which KURZ introduced back in 2019 - a platform that enables us to combine 2K thermoplastic technology with DECOPUR®. This not only opens up different

combination possibilities, but also offers smart manufacturing efficiency with low energy consumption.”

The duo 1300 Combi M machine from ENGEL is perfectly matched to the application of the innovative process. “To enable the use of multi-edge cutter technology, the duo 1300 Combi M has a second moving injection unit on the movable clamping plate. The center mold halves are rotated using a horizontal turn table with a vertical adapter plate,” explains Michael Fischer, Head of Business Development Technologies at ENGEL. “The articulated robot of the ENGEL easix KR120 series takes care of the demolding and supports the decoration step beforehand with the additionally installed heating mirror. We have ideally coordinated all components, including the integration of ENGEL temperature control technology, to make production as efficient as possible.”

KURZ and ENGEL have sought further support for this ambitious project. In addition to the tool technologist Schöfer, the structure expert Reichle as well as the plastics manufacturers SABIC and Röhm are also involved. The design specialist BURG DESIGN - also a KURZ subsidiary - rounds off the team of partners. “We are delighted that we can rely on the combined expertise of our group of companies and our strong partners’ many years of experience to implement flagship projects such as our rear-end cover. This enables us to successfully demonstrate that we are the right point of contact when it comes to holistic, innovative, series-ready solutions for the automotive industry,” sums up KURZ expert Martin Hahn.

**At a glance**

K 2022 from October 19-26, 2022

LEONHARD KURZ Stiftung & Co. KG: Hall 5, Stand A19

Product group: Machines and equipment for finishing, decorating, printing, and marking

Focal points of the LEONHARD KURZ trade fair appearance: Automotive interior/exterior, consumer electronics, home appliances, sustainability