

Automotive exterior design: KURZ Group and Sumitomo (SHI) Demag present a highly efficient IMD process

Fürth/Germany, September 30, 2021: The fully electric IntElect injection molding machine from Sumitomo (SHI) Demag is efficient, precise, and fast. Visitors to the 27th Fakuma trade fair, which will take place from October 12 to 16 this year in Friedrichshafen, Germany, will see a demonstration of this machine. Together with LEONHARD KURZ, the experts in innovative plastic decoration solutions from Fürth, Sumitomo (SHI) Demag, the specialist for machines for plastics processing, is presenting a pioneering application of In-Mold Decoration for the vehicle exterior of tomorrow. In live production, the highly efficient 'IMD second surface' process will be demonstrated at the machine manufacturer's booth B1-1105. This process creates an automotive design badge for the front or rear of the vehicle. In addition to KURZ and Sumitomo (SHI) Demag, KURZ subsidiary Baier, where the cleaning station in the machine comes from, is also jointly responsible for the successful overall concept presented at Fakuma.

Highly efficient IMD process combines injection molding and decoration

"Compared to competitive processes such as lacquering or physical gas phase separation – or PVD for short – the IMD process is significantly more economical and environmentally friendly," explains Martin Hahn, Head of Application, Technology & Innovation Business Area Decoration at LEONHARD KURZ, and continues: "The injection molding process and the decoration process are combined in a single highly efficient work step, which not only saves costs and time, but also leads to significant CO₂ reduction. We want to demonstrate this to Fakuma visitors by producing a sample design badge live at the trade fair."

With the innovative process, there are no limits to the freedom of design. A wide range of color variants are possible, as are backlighting effects and the implementation of customer-specific specifications with regard to surface

structure – the tool from KURZ allows both single and multiple cavities – and durability. Component production in the ‘IMD second surface’ process, the end result of which is considered to be particularly durable, can also be used for autonomous vehicles of the future. After all, with indium, KURZ has created a radar and 5G-permeable metallization option for In-Mold Decoration that meets the requirements of modern automotive frontal designs.

Successful sustainability

By combining two work steps in a single step, the concept from KURZ and Sumitomo (SHI) Demag is more sustainable than previous manufacturing processes. The manufacturing process also scores points in other environmentally friendly aspects. The decorative layers are transferred in the process as a dry transfer system, which is why – unlike varnishing – there's no need for wet lacquer contamination or post-drying energy. Environmentally harmful electroplating is also completely replaced thanks to metallization in the decoration. The injection molding machine is fully electric, which means energy savings of around 20 percent compared to a standard machine. The components produced and decorated in the IMD process via a single image in the traditional roll-to-roll process, including the decorative layers, are also recyclable. And recycle can be used in component production depending on customer requirements. These are all factors that are particularly important for LEONHARD KURZ in light of the company's commitment to a holistic recycling cycle through ‘lifecycle thinking’.

Bundled expertise for many years

The process presented at the trade fair, which shows the application for an automotive exterior panel as an example, is not the first promising concept from the two partner companies. KURZ and Sumitomo (SHI) Demag have been working together for many years. “This meant that the entire development process for this project was characterized by outstanding teamwork beyond the company borders,” stresses Martin Hahn. “It wasn't just KURZ's various company divisions that provided extensive know-how and commitment – such as the innovation development and the design team – but all of our partners too.” In

addition to LEONHARD KURZ and Sumitomo (SHI) Demag, the KURZ subsidiary Baier, H&S Kunststofftechnik, Petek Reinraumtechnik, and the polymer manufacturer Covestro are also responsible for the success of the project.

Online presence leading up to Fakuma

LEONHARD KURZ is also using its trade fair presence in Friedrichshafen to kick off a comprehensive online presentation of the company's innovations and exhibition highlights. Visit www.fakuma.kurz.de for detailed information and extras such as videos or 3D animations on Fakuma products and topics.

At a glance

Fakuma 2021 - October 12-16, 2021

LEONHARD KURZ Stiftung & Co. KG: Hall A4, Stand A4-4122

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

Trade fair presentation focuses on: Automotive interior/exterior, consumer electronics, home appliances, sustainability

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About KURZ: The KURZ Group is a global leader in thin film technology. KURZ develops and manufactures decorative and functional layers applied to carrier foil for a wide range of industries, from the packaging and printing industry through to the automotive, electronics, card, and textile sectors. KURZ offers a comprehensive portfolio of products for surface finishing, decoration, labeling, and counterfeit protection, rounded off by an extensive range of stamping machines and stamping tools. The company is also continuously investing in new technologies and developing innovative solutions for integrating functionality into surfaces. The KURZ Group has more than 5,500 employees at over 30 sites worldwide and produces under standardized quality and environmental standards in Europe, Asia, and the USA. A global network of subsidiaries, representatives and sales offices ensures short paths and individual, on-site consulting.

www.fakuma.kurz.de

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