

Media Release

Voith Paper

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2021-09-16

Voith sets course for development of sustainable packaging papers with world's most modern pilot coater

- Growing demand for barrier papers and flexible packaging solutions as a sustainable alternative to petroleum-based packaging
- Up to 18 coating variants possible for all grades of specialty papers, graphic papers as well as board and packaging papers
- State-of-the-art sensor and automation technology ensure pinpoint drying and enable non-contact drying over a web run of up to 40 meters

HEIDENHEIM, GERMANY. Environmental waste due to plastic pollution is one of the greatest challenges of our time. Sustainable alternatives to petroleum-based packaging have long been sought. An innovative solution is the versatile barrier papers that are recyclable and ideally biodegradable. The coating process for these papers is demanding; in addition to the perfect application of one or more functional layers, the drying of the sometimes temperature-sensitive application media is a challenge.

Today, Voith officially unveils the world's most modern pilot coater at an online grand opening event. Voith has extensively rebuilt its pilot coater at its Technology Center in Heidenheim, elevating it to the latest state of the art to meet the worldwide increase in customer interest in trials with barrier papers and flexible packaging solutions. For ideal results, the new pilot coater features expanded drying capacities, optimized web guiding and the latest automation technology and sensor systems.

"With the modernized pilot coater, Voith enables its customers to conduct extremely flexible pilot tests with different coating variants for all grades of specialty papers, packaging papers, board and graphic papers – and with highly efficient drying," says Frank Opletal, CTO Voith Paper. "Customers can apply the knowledge gained directly to practical applications. By

producing small batches for market tests or comparing different system concepts, our customers get a much higher planning reliability for possible future projects."

18 different coating variants

"With the rebuild of our pilot coater, we are significantly increasing flexibility," says Uwe Fröhlich, Senior Manager R&D Pilot Operations at Voith. A total of 18 different coating variants can be tested through the modularly designed coating stations. For example, the two SpeedSizer AT stations can be used not only for conventional film application but also as a size press or high-penetration SpeedSizer. In addition to the existing application methods with the SpeedSizers or the DynaCoat for roll or blade coating, the new DynaLayer is the most widely used option for highly functional barrier paper grades. Thanks to the compact curtain coating technology, up to three layers can be applied at the same time.

Highly efficient drying

Another important factor in the production of barrier paper, and also many other types of coated paper, is careful and precise drying. Over-drying carries the risk of bubbles forming in the coating layer, which can destroy the barrier properties. Under-drying, on the other hand, can also cause defects, especially if the coating layer has not yet completely dried when the paper passes through subsequent guide rolls. Therefore, Voith paid special attention to the drying technology when rebuilding the test coater. "As part of the upgrade, we succeeded in implementing non-contact drying in the existing hall over a web length of more than 40 meters," explains Fröhlich. Eight dryers, the last of which can also be used as a cooler, ensure that the coating is dried reliably. The infrared dryers used are equipped with the latest generation of infrared emitters – the HelioX emitters – which are characterized by high efficiency with comparatively low emissions. The compact design of the air dryer units enables stable drying conditions to be quickly set during trials. What makes the pilot coater unique is that the dryer hoods at the top and bottom can be heated separately depending on the requirements. Around 200 sensors for measuring drying-specific parameters and innovative automation technology enable a wide range of analysis and process control options.

In order to also include upstream or downstream process steps in the trials, the pilot coater can be combined with the XCal1 pilot calender. This makes it possible, for example, to specifically investigate the impact of precalendering on barrier properties. In addition, customers can test the recyclability of the developed papers on site at Voith's Fiber Technology Center. For more information about our pilot coater, please visit:

<https://voith.com/technology-center>.

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About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 20,000 employees, sales of € 4.2 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

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Page 3 of 4

The Group Division Voith Paper is part of the Voith Group. As the full-line supplier to the paper industry, it provides the largest range of technologies, services and products on the market and offers paper manufacturers holistic solutions from a single source. The company's continuous stream of innovations facilitates resource-conserving production and helps customers minimize their carbon footprint. With its leading automation products and digitalization solutions from the Papermaking 4.0 portfolio, Voith offers its customers state-of-the-art digital technologies to improve plant availability and efficiency for all sections of the production process.



With the modernized pilot coater in Heidenheim, Voith enables extremely flexible pilot tests for all grades of coated papers.

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