



View of BASF's pilot coating center in Ludwigshafen

BASF expands pilot coating center in Ludwigshafen

New curtain coater strengthens the strategic focus on the packaging market

The growing packaging market is a primary area of interest for BASF. The company recently integrated a curtain coater with a "DF Coat" slot dye from VOITH into its existing pilot coater. This is now available to customers as well as any third parties interested in carrying out application trials with coating colors on paper, board and liners.

In an interview, Jörg Claußen, Head of Paper Coating Technology at BASF, and Volker Scharffenberger, Deputy Operations Manager of the BASF pilot coating center, explain why the new coating head was installed.

PPM: Why does BASF continue to operate a pilot coating center?

Jörg Claußen: The coating center is part of BASF's strong commitment to the paper and board industry. The facility is primarily used to further develop existing coating colors together with our customers and to demonstrate the performance of BASF products. In addition, we also use the facility for our R&D activities, because it allows us to test and develop new products in a realistic setting. Finally, any interested third parties, such as paper manufacturers or their suppliers, can rent the facility to run trials of their own.

Jörg Claußen and
Volker Scharffenberger



Pictures: BASF

PPM: Can you briefly explain the set-up of BASF's pilot coating center?

Volker Scharffenberger: In addition to the newly installed curtain coater, BASF's state-of-the-art pilot coater can handle all standard application methods, including roll/blade, jet/blade, roll/varibar and film press, to test coating colors for paper and board. The equipment has a working width of 80 cm. A delateur with a variable shear rate for preparing coating colors is available on site, as well as batch and jet cookers for processing starch solutions. A 12-roll supercalender that enhances smoothness and gloss as well as the necessary machines to cut, package and ship paper samples complete our comprehensive offering for trials. In addition, a small coating machine featuring an air knife, blade and varibar is also available for special requirements of our customers.

PPM: How does the pilot coating center benefit from the BASF Verbund site in Ludwigshafen?

J. Claußen: Being part of the Verbund site in Ludwigshafen means that we have direct access to BASF's technical services, transport and logistics and sample shipping systems. From our perspective, this results in a higher operational reliability, giving us a decided advantage over other pilot facilities.

Furthermore, we are connected to BASF's company wastewater treatment plant and we can guarantee that all waste such as coating color residues and waste paper is disposed of in an environmentally friendly and sustainable manner. We also have a large warehouse at our disposal for the various raw materials needed for the production of coating colors and all kinds of base papers.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The more than 115,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is

organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of €64.5 billion in 2017. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.

About BASF's Dispersions & Pigments division

The Dispersions & Pigments division of BASF develops, produces and markets a range of high-quality pigments, resins, additives and polymer dispersions worldwide. These raw materials are used in formulations for coatings and paints, printing and packaging products, construction chemicals, adhesives, fiber bondings, plastics, and paper as well as for electronic applications

such as displays. With its comprehensive product portfolio and its extensive knowledge of the industry, the Dispersions & Pigments division offers its customers innovative and sustainable solutions and helps them advance their formulations. For further information about the Dispersions & Pigments division, please visit www.dispersions-pigments.basf.com.



BASF has added a curtain coater to its pilot coating facility

A highly qualified team of employees with many years of experience ensures that trials go smoothly. We also have a complete testing laboratory for coating colors and coated papers and can run further analyses at the analytical laboratories located on the BASF Ludwigshafen site. Omya, a pigment supplier, has extensively used the pilot coating center over the past 15 years. By cooperating with us, Omya can offer this full range of services to their customers in the paper industry.

PPM: Why was a curtain coater added to the facility?

J. Claußen: We want to sharpen our focus on the growing packaging market. We consider this of decisive importance and a crucial part of our strategic orientation. The curtain coater has many advantages that will increasingly strengthen its position on the packaging market as a coating aggregate. The addition completes our range of application technologies, and enables us to optimize and develop coating formulations together with our customers in an even more practice-orientated way. With the addition of the curtain coater, we have strengthened the competitiveness of our pilot coating center.

Picture: BASF has added a curtain coater to its pilot coating facility.

PPM: Why was Voith’s “DF Coat” slot dye chosen?

V. Scharffenberger: We have been working closely together with Voith for many years. For this reason, it was a matter of course that when the decision was made to expand the facility, we chose the slot dye from this manufacturer. We are very satisfied with its functionality as well as the constant and uniform quality of the resulting coating layer. The start-up and trial phases have already been completed. The first pilot trials have been a success. Up to now, the feedback from our customers has been very positive.

PPM: What are the advantages of the curtain coater?

J. Claußen: Compared with other coating aggregates, the non-contact application method used by the curtain coater produces a particularly homogeneous and defect-free contour coating layer. The base paper undergoes practically no mechanical stress during the coating process, which enhances runnability through the pilot coater. In addition, coating

Our interview partner

Jörg Claußen, born 1972 in Munich
 Position: Head of Paper Coating Technology
 Education: Master of Engineering in Paper Technology (Munich University of Applied Sciences, Paper & Packaging Technology)



2006–2016: Technical Coordinator for various key account customers in Europe
 since 09/2016: Head of Paper Coating Technology, responsible for the pilot coating center, the paper laboratory and R&D coordination

Professional career:
 1997–2000: RHODIA, paper coating technology
 2000–2006: BASF SE, paper coating technology/technical sales, responsible for various customer and in-house projects, primarily in Switzerland, Spain and Portugal

Our interview partner

Volker Scharffenberger, born 1971 in Ludwigshafen am Rhein
 Position: Deputy Operations Manager of the BASF pilot coating center
 Education: Chemical laboratory technician, paper technologist



center of BASF SE, coordination of the work at the pilot plant, maintenance, trial planning
 1995–1997: Paper technician through distance learning degree program at Steyrermühl/Austria
 2005–2012: Foreman of the pilot plant
 since 2012: Deputy Operations Manager of the pilot coating center

Professional career:
 1987–1991: Chemical laboratory assistant, apprenticeship program at BASF AG, environmental protection unit
 1992–1995: Paper laboratory, specialization: binders for gravure printing papers
 1995–2005: Pilot coating

layers applied by the curtain coater are characterized by a highly uniform fiber coverage and layer thickness, which have a positive effect on printability and optical properties. The curtain coater thus leads to better results than conventional systems, especially when applying barrier coatings.

PPM: What experience have you gained since the successful start-up of the curtain coater?

V. Scharffenberger: Our curtain coater enables fast changeover times, good accessibility and short dwell times for the deaeration of coating colors. We can cover a large spectrum in terms of speed and application weight. During start-up, coating weights of 4 to 75 g/m² were applied defect-free in a single pass. Such high coat weights were possible because of the high drying capacity of the pilot machine and the option of preheating prior to coating. Initial testing has shown that the curtain coater can seamlessly be combined with other application units, such as the film press, which makes it possible to apply two layers of coating in one pass.

PPM: Is the pilot coating center currently being used to capacity?

V. Scharffenberger: At the moment, the pilot coating center is being used quite extensively. However, it is always possible to adjust the capacity to meet a higher demand. Anyone who is interested in running pilot trials is welcome and should contact us via the details provided here.

Contact information of the BASF pilot coating facility

BASF SE, Volker Scharffenberger
Tel: +49 621 6049643
Email: volker.scharffenberger@basf.com
www.basf.com/paper

PPM: What range of solutions does BASF currently offer in the area of packaging papers/barriers?

J. Claußen: In the area of barrier applications, we offer a broad portfolio of products that includes all important applications. We are currently in the process of launching these products in the market. We will continue to invest in expanding our range of products for barrier solutions. Due to the ongoing discussions about migration of unwanted substances, many paper manufacturers are developing barrier solutions for fiber-based materials. Together with some customers, we have already achieved positive results.

PPM: Thank you for the interview.

(Dr. Kerstin Graf)

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