Mr. Carni, what makes digital printing so attractive for flexible packaging?

Matthieu Carni: “Digital printing enables converters to realize very short print runs in a minimum time. That makes it attractive to brand owners who want to change their packaging designs quickly and easily. With regionalized or customized packaging, brand owners are enabled to differentiate their brand from those of their competitors. Additionally, users can react on the one hand far more flexibly to short-notice customer inquiries, on the other hand waste and inventories will be reduced using digital print technologies. We are convinced that flexible packaging will be the next big market for digital print.”

In terms of selecting one of the most suitable digital print technologies for flexible packaging, Siegwerk opts for water-based inkjet printing – why?

Matthieu Carni: “We see inkjet technology as the future of digitally printed packaging, where minute ink droplets are fired contactless with pinpoint accuracy to a substrate from a printhead. In contrast to other digital print systems, it enables faster printing on wider substrates. Higher printing speeds and wider print widths result from the scalability delivered by inkjet technology. Furthermore, it enables us to customize the ink better to the application requirements – of course in compliance with all statutory regulations to deliver maximum product safety without compromising print quality or packaging performance. Water-based inkjet inks are simply the best solution for printing thin, non-absorbent packaging films.”

Using water-based inkjet for flexible packaging is still in its infancy. What challenges does Siegwerk need to master here?

Matthieu Carni: “From a technical perspective the biggest challenge is in formulating water-based inkjet inks so they give the right wetting and drying behaviors. Inkjet is a non-contact print technology. That means that the chemical composition of the ink alone determines how the ink behaves on the substrate surface. Ink spreading and therefore print quality differs considerably depending on which type of substrate you use. That’s why Siegwerk recommends primers, which are specifically developed for these applications. The spreading of the ink drops gets controlled and allows to harmonize various substrates.”
You also mentioned drying behavior. What needs to be kept in mind particularly with non-absorbent substrates, which are frequently used in flexible packaging?

Matthieu Carni: “On the one hand printing inks are supposed to dry quickly on non-absorbent substrates and display good adhesion and spreading properties, but not clog the printhead and its nozzles. Our ink systems are developed to ensure absolutely no blockages in the nozzles.”

In addition to opening its new facility to produce UV inkjet inks for label, blister and direct-to-pack applications, Siegwerk has also invested significantly in the laboratory for the development of water-based inkjet inks. Why?

Matthieu Carni: “Offering ink solutions just for today’s needs is not enough; we are already thinking about the changing needs of our customers’ and tomorrow’s print processes. How can we improve factors like functionality, performance and efficiency to provide them with an edge? With the Inkjet Laboratory and the new Blending Center for the production of conventional inks we have created ideal, state-of-the-art facilities in Annemasse. We intend to expand our portfolio with novel ink solutions to serve the needs of packaging print companies. This will help us to take our packaging ink solutions into the future. We will continue to invest in inkjet during the next few years. The Technology and Innovation Center in Annemasse remains the driving force for future inkjet printing ink solutions.”

Why is close collaboration with printing machine manufacturers a part of this process?

Matthieu Carni: “The development of the new aqueous inkjet ink system is closely linked with on-going developments in the printing press industry. To date, only machine concepts and prototypes have been developed to inkjet-print flexible packaging. That’s why Siegwerk is working very closely with printing press manufacturers to help develop digital printing presses in line with market requirements and to apply its vast know-how in a particularly relevant way. The goal of these efforts is to showcase operational prototypes together with our OEM partners at drupa 2020 and thus set another milestone for the expansion of digital print.”

Mr. Carni, thank you very much for this enlightening conversation.

ANNEMASSE – CENTER OF EXCELLENCE

With a headcount of 275, the Technology and Innovation Center in Annemasse, France is not just a production facility manufacturing 25,000 tonnes of ink a year, but at the same time an R&D Center for this forward-looking inkjet technology.
Many polyurethane-based white inks have previously been associated with an increased risk of bleeding or being penetrated by laminating adhesives. In close cooperation with our PUR development team, Siegwerk has created an innovative white ink technology that not only appeals because of its high adhesive resistance but also its flexoprinting performance characteristics.

In contrast to colored inks, white inks that incorporate polyurethane as a binding agent tend towards bleeding or excessive penetration by laminating adhesives. This can be attributed to the very similar chemical properties that laminating adhesives share with standard flexoprint solvents, which are also used in the PUR white ink system.

Laminated print material exhibits this problem in the form of grey discoloration of the white ink or fraying around windows. In worst case scenarios white inks can also be completely dissolved by adhesives and become transparent. PVB (polyvinyl butyral)- or PVC (polyvinyl chloride)-based white inks are regarded as a technical solution for this specific purpose. These however have other disadvantages, like low bonding values in combination with NC (nitrocellulose)-based colored inks. Another example are PVC inks, which are not suitable for flexoprinting, because a solvent is required in the binding agent.

Innovative PUR white ink technology
Siegwerk is now offering a new ink technology – its next generation of PUR-based white inks – that solves the problem of bleeding and adhesive penetration, which occurs with polyurethane-based white inks. The new white ink technology combines PUR ink systems' familiarly positive flexoprint properties with equally impressive laminate bonding values – without fear of excessive penetration by solvent-free or solvent-containing adhesives.

Excellent packaging print performance
The new technology exhibits good runability and lamination properties where tricky designs featuring delicate halftone prints are involved or around windows in white ink. Given their excellent bonding characteristics, these PUR white inks are eminently suitable for producing packaging materials or labels, for example. The white was specially developed as a background white for NC colored inks and, in this combination, features great bonding characteristics. A combination with colored inks based on other binding agents is feasible too and in most cases also delivers good bonding strength performance.

The newly engineered chemical composition of Siegwerk’s innovative polyurethane enables excellent printing and lamination results to be achieved. Here Siegwerk applies all its expertise by developing and manufacturing its own polyurethane and reacts to market and customer needs by providing pioneering, tailor-made ink solutions.
“FLEXOPRINT” GUIDE: NOW AVAILABLE ONLINE AND AS AN APP

Our “Flexoprint” guide, which helps you identify and remedy the most common flexoprinting errors, can now be conveniently used online too. The revised content has been neatly incorporated in a new, user-friendly way into the Siegwerk website. You can therefore find answers to your questions quickly and easily using a search box and increase your print productivity immediately.

Is your print output impacted by the so-called “ghosting” problem, for example? Just enter the appropriate keyword in the search box. You immediately obtain a list of typical problems that occur in this context. To start with, the basics of the problem are always explained (“How is ‘ghosting’, i.e. double images, manifested in print?”), then various causes are listed, like “What do I do when the choice of inks is too small, because anilox roller pick-up volume is too low?” or “What do I do when the ink in the cell dries?”. By clicking on the cause, you obtain practical solutions that are always illustrated too.

Modern flexoprinting is a complex printing method where problems can occasionally occur. Error diagnosis using the guide is definitely not intended to replace communication between you and our technical experts. Every dialog with our customers helps us to enhance our inks, because ink always plays a key role in the process.

Your contact at Siegwerk is happy to provide you with further details.

DIRK WEIßENFELDT – THE NEW HEAD OF FLEXIBLE PACKAGING EMEA

Dirk Weißenfeldt took up his post as the new Head of Flexible Packaging Siegwerk on October 1, 2017. His area of responsibility includes this business unit’s Sales, Technology and Production functions. Greater customer focus and better interface coordination between Production, Technology and Sales are his particular priorities. “I will focus especially on customer service proactivity and speeding up internal decision-making processes”, he explains.

The trained business manager is a familiar face at Siegwerk. He has worked for Siegwerk since 2006, initially as Regional CFO EMEA Packaging and most recently as Head of the Business Unit Paper & Board. Weißenfeldt’s previous roles have given him the in-depth knowledge and experience he needs for his new position.

His predecessor Dr. Jan Breitkopf now represents the interests of the entire Flexible Packaging EMEA division on the Board of Management and will make an important contribution to Siegwerk’s global success.
INK SAFETY PORTAL – NEW CONTENT, ALWAYS UP-TO-DATE

How does Siegwerk ensure safe inks, especially for food packaging? Our English-language “Ink Safety Portal” knowledge platform has been providing answers to this question since last year. As a leading provider of inks for packaging applications, we have committed to the highest standards of product safety and transparency. Knowledge transfer via the “Ink Safety Portal” is intended to help you manufacture safe food packaging and take communication on this topic to a new level.

Since its launch many actual and potential customers have registered to benefit from extra information. The content is divided into key issues like raw material analysis, global regulatory requirements or migration and exposure assessment. Basic information is freely available, while a short, uncomplicated registration process must be completed if you wish to access the easy-to-understand videos and interactive diagrams, more detailed texts or use a Worst Case Calculator.

It’s worth visiting the “Ink Safety Portal” now and again, because content is updated and augmented regularly. A new feature is the 3-minute animation video, in which various types of food packaging-related migration are demonstrated. You learn, for example, how mass transfer can be reduced or completely avoided.

You can access the “Ink Safety Portal” at: http://bit.ly/2vbUqP6

… obtain plenty of vital information!

1. Register and …

SOCIAL MEDIA

This 60-second video explains why Siegwerk is the right partner for you!

You can find out what Siegwerk is excited about on our social media channels. Why not have a look!