Siegwerk’s innovative new electron beam curing (EB-curing) solutions for offset print purposes combine superb print quality with a high level of cost-effectiveness – especially if small print runs are involved.

There is a trend towards short print runs in many market segments. Brand owners in particular are seeking to diversify their packaging, which is why print providers must deal with frequent print design changes and decreasing print-run sizes. “In the past a typical print run involving wraparound beverage labels, for example, ran to many thousands of square meters”, Dr. Stefan Busse, Regional Director Application Technology, Flexible Packaging EMEA at Siegwerk, explains. “Nowadays increasingly more print jobs are printed on wide-web presses using just a couple of thousand square meters.” In future printers need to minimize their costs continuously to stay competitive.

Fast changeovers feasible
Offset printing with its high levels of heptachromatic print reproducibility is likely to be of major interest to these print providers. They can switch quickly between different jobs and achieve very short set-up times. In combination with very low print plate costs, this makes offset printing a commercially attractive option. Several industrial-scale print trials on the Comexis Ci8, a central-impression EB offset press, showed that Siegwerk’s new EB technology, e.g. EB705 ink, delivers outstanding print results. That means that excellent results can be achieved at lower dot gain, lower water dosage and therefore greater permanence compared to emulsification and toning, as well as at fast post-stoppage print plate idling. Market interest in such solutions continues to increase.

EB Flexo White sets standards
Siegwerk’s white ink solutions compare very well to competing products. For example, EB 770 Flexo White delivers excellent printability and opacity values – more than 70 percent can be achieved, depending on the print plate used. This white performed well in comparable industrial tests, featuring few pinholes at supreme coating smoothness. As photo initiators are not required in the EB curing method, migration risk is lower compared with the UV method. Siegwerk developed its new ink system in accordance with relevant product safety standards. All ingredients comply with the stringent Swiss Ordinance and in all probability they will conform to future printing ink regulations. Proprietary migration tests demonstrated this ink solution’s low migration behavior, making it eminently suitable for food packaging use.

Other developments
Another topic is synthetic-film laminates, which in EB offset terms represent a real challenge. Here too the development team is working hard on an enhancement that has already achieved some initial success on, for example, coex. OPP and acrylate-coated PET. “Siegwerkers” are also working on single-component gold and silver special-effect inks.
Product safety, especially in the food segment, is enhanced by sharing knowledge and expertise. And this is exactly the intention of Siegwerk’s new Ink Safety Portal, which just went online this month.

**Expertise in many areas**
The English-language portal comprises a wide range of different categories, like ink ingredients, regulatory affairs, exposure assessment, safety evaluation, network, products & solutions, transparency label as well as guidance & support. The information is provided in different media formats, ranging from infographics and videos through more detailed documents to eLearning modules, depending on the topic.

This creates a varied knowledge pool covering all aspects of safe packaging printing inks. Herewith, Siegwerk bundles its expertise on only one platform and makes it available to customers and other interested people. Basic content of all topics is freely accessible. To access further information all users can register quickly and easily. The portal can be accessed also via smartphone app.

**Delivering premium services**
The portal underlines Siegwerk’s aspiration to differentiate itself from its competitors by providing premium product safety services. The provision of professional expertise to customers is a key component of the company’s strategy.

“Safe and legally compliant quality products form the basis of our customers’ trust”, says Dr. Jörg-Peter Langhammer, Vice President, Global HSE + Sustainability. “Product- and especially food safety are the core of what we do.” This focus pays dividends, as Siegwerk is a leading provider of safe printing inks and lacquers for food packaging. This also includes an extensive know-how and close partnerships with customers. It is necessary to meet regulatory requirements and industry-specific voluntary commitments, set own standards and align everything with the specific requirements of printers and brand owners.
FLEXIBLE PACKAGING

EXPERT GUIDE TO FLEXOPRINTING

Modern flexoprinting is a complex print method where process problems frequently occur. Because inks play an important role, our customers are very welcome to share information about printing problems with our technical experts. On a related note Siegwerk has compiled and now revised an expert troubleshooting guide to the packaging materials flexoprinting process for its customers.

Solving problems, avoiding errors, increasing efficiency and helping customers with print and packaging production issues to the best of their knowledge – Siegwerk employees are passionate about providing rapid, pragmatic printing ink solutions to meet our customers’ specific needs and helping to develop new applications and technologies, because finding and eliminating print problems wastes production time and therefore money. Siegwerk has long been a skilled and reliable partner in this respect – if necessary with the aid of a global network of applications engineering and analysis experts.

Why a flexoprinting guide?

Siegwerk employees not only endeavor to diagnose and eliminate errors quickly. At the same time Siegwerk is always seeking long-term solutions. Our employees demonstrate ways in which problems can be avoided in future. This enables quality problems and therefore customer complaints to be reduced substantially.

Studies have shown that 70 percent of all print errors are directly linked to the print method used. The ink reveals the error but in many cases is not the cause of the error. But printing experts are consulted, especially when inks are involved, because their expert knowledge about inks and their printing properties lead in many cases to solutions being found quicker.

This insight coupled with our long-standing expertise as a leading printing ink manufacturer motivated Siegwerk to produce a practical guide to typical errors that can occur during flexoprinting.

Illustrated explanations enable Siegwerk customers to detect what printing-plant problems are involved quickly. This may enable them to identify and remedy typical problems themselves and therefore complete their print jobs faster. Of course that doesn’t mean they have to dispense with tailored advice from and communication with our experts, because we definitely remain at their disposal to discuss errors in detail and to find solutions.

CAUSE IDENTIFICATION AND REMEDIES

Causes and settings for the most important adjustments are detailed in a revised version of our Flexoprinting Guide. Is there a flyspeck effect? This causes ink bonding between individual matrix dots on the print plate and intermediate recesses are filled with ink.

FLYSPECK EFFECT

<table>
<thead>
<tr>
<th>CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative humidity is too high.</td>
<td>Replace with fresh ink. Adjust solvent mixture. Increase dryer performance between printing operations.</td>
</tr>
<tr>
<td>Ink formula does not match print motif.</td>
<td>Replace ink.</td>
</tr>
<tr>
<td>Wrong choice of solvent.</td>
<td>Empty ink tank and adjust solvent mixture.</td>
</tr>
<tr>
<td>Ink dries too quickly.</td>
<td>Reduce viscosity.</td>
</tr>
<tr>
<td>Ink viscosity is too high.</td>
<td>Select anilox rollers with lower pick-up volumes to match print job.</td>
</tr>
<tr>
<td>Pick-up volume is too high.</td>
<td>Use finer anilox roller.</td>
</tr>
<tr>
<td>Anilox roller and printing plate screen ruling don’t match.</td>
<td></td>
</tr>
</tbody>
</table>

With error

Without error

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After several busy days, Siegwerk is more than satisfied with its first appearance at “components – special trade fair by interpack” (the subcontracting show within interpack). “components”, which was staged this year in parallel to interpack and centrally located within the exhibition grounds, proved to be a real visitor magnet. Trade visitors from Germany and abroad were given a unique market overview of the entire value chain that interpack provided at “components”.

In line with its “Focused on your needs” motto, Siegwerk successfully exhibited at the world’s leading processes and packaging trade fair, interpack, in Düsseldorf from May 4 to 10.

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Not only customers but also interested visitors were able to obtain detailed information about the full range of products and services offered by one of the world’s leading providers of printing inks for packaging applications and labels. Siegwerk’s experts really got booth visitors interested in its tailor-made solutions, which combine best-in-class ink performance, high product safety standards and continuous guidance and services. The booth team intensified existing contacts and made many new ones in a series of inspirational conversations.

One highlight was the Siegwerk get-together on Thursday evening in the old “Dr. Thompson’s” soap factory in Düsseldorf, where Siegwerk CEO Herbert Forker invited German and foreign customers and employees to chat informally.

Do you wish to be able to identify and remedy your print problems with the aid of Siegwerk’s Flexoprinting Guide? It is also suitable for employee training.

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