With regard to the investment costs for machines and building technology, the strengths of water-based ink systems are obvious. “Operating equipment that uses water-based systems is subject to less restrictions,” the expert adds. “Printers do not need to take explosion prevention measures. There are hardly any emissions. Added to that is the cost certainty involved in being well-prepared for future anti-pollution or labeling requirements legislation.”

What is the difference?

Water-based inks differ from solvent-based printing inks primarily in terms of their printing and drying properties. Water-based inks’ greater surface tension gives rise to different wetting properties and hampers uniform dispersal. “Given water’s higher evaporation rate, you require more powerful drying capabilities to dry the ink film, which makes drying water-based inks very challenging,” explains Andreas Schellenbach. “Furthermore, the choice of substrates is limited.”

In Europe printers are experiencing growing demand for water-based ink solutions. A further increase is also anticipated in the future. Solvent-based systems are still strongly dominating the market for food packaging made of flexible films. The lion’s share of packaging printed with water-based inks comes from the non-food segment. It is dominated by shopping bags and adhesive tape made of PE or OPP. “The food, pharmaceuticals and hygiene packaging segment currently only accounts for 15% of the market,” explains Andreas Schellenbach, Regional Director Application Technology Flexible Packaging EMEA at Siegwerk. Customer inquiries received during the last drupa trade fair indicate serious potential, especially for investments in completely newly planned printing plants.

Water-based inks are becoming more popular and are also gaining market share in flexo printing. When does it make sense to use which ink system?

TWO INK SYSTEMS, DIFFERENT STRENGTHS

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While with solvent-based inks the solvents evaporate, leaving behind a temporary ink/film bond, water and amine components are evaporating when using water-based inks, which leaves a permanent ink/film bond. “Water-based inks thus demonstrate a good standard of permanence. This property however makes cleaning more problematic and leads to modified handling processes around the printing press,” added Schellenbach.

**Equivalent printing results**

Qualitatively speaking, water-based inks are a great alternative for printing synthetic films for food packaging. “Whether they can actually be used, essentially depends on the individual structures and requirements. Water-based systems offer clear benefits but also pose several challenges”, says the ink expert. Given its expertise in this field, Siegwerk is more than happy to help you compare the arguments for and against water-based systems. Feel free to contact us!

**SIEGWERK’S PUR-BASED INKS FOR FLEXO PRINTING**

10 years of outstanding performance

In 2006, Siegwerk launched its first colored PUR ink system to the EMEA region. Since then, the flexo ink systems based on polyurethane (PUR) like the UR 11-4 ink series have been a genuine growth story for the company. The inks are suitable for high-end flexo retort, offer great bonding strength, excellent printability, high color strength, and are easy to clean. That’s why our PUR-based flexo ink systems have become a high performing alternative for PVB-based inks, which are historically used more often.

“Nowadays, some customers print in full HD/HQ flexo daily using this polyurethane system,” said Philippe Giguet, Regional Technology Director Flexible Packaging EMEA at Siegwerk. “Its excellent bonding strength values paired with a high color strength has enabled Siegwerk’s PUR flexo ink series to add value for many customers.”

PUR ink systems are compatible with a large number of different substrates and offer good chemical resistance. “We recommend this universal technology as a good solution for high performance flexo applications simplifying your ink-kitchen organization at the same time,” Giguet adds.

Siegwerk has now gathered more than one decade of experience with its PUR inks for flexo printing which are well established within the market today. The company’s ink experts refine and optimize the ink systems continuously to maximize the added value for customers.

So, why not taking a closer look to see how PUR-based flexo inks could add value for you? We are happy to provide you with in-depth information in person. Just get in contact with us at: info@siegwerk.com.
Print companies are caught between constant cost pressures and increasing competition. That’s why Siegwerk provides specialist consultancy services that go beyond the scope of the printing ink business. Stefan Braun, Regional Director On-Site Consulting/InHouse Packaging EMEA, explains the On-Site Consulting (OSC) approach: “Together with customers, our OSC experts analyze production processes along the entire workflow chain – from pre-press via ink management and print room performance to finishing. This analysis is used to identify potential savings, enhance procedures and resources and draft action plans for sustainable implementation.”

In addition to set-up times and downtimes, a key issue that’s analyzed is waste generated during the process, like excessive use of setup materials. For example, the experts identify less than ideally positioned tools and materials during the course of setup workshops involving pathway and time analyses. Furthermore they help with optimum ink preparation and provide assistance with the conceptual design of new dispensing systems and environmentally friendlier production. “Experience shows that six-figure Euro amounts can thus be saved annually,” Stefan Braun emphasizes.

**Partnership**
Siegwerk’s On-Site Consultants see their role as coaches unleashing new ideas and thus helping print companies achieve sustainable corporate development. The aim is to enable customers to action all forms of enhancements on a continuous and sustainable basis. In addition to consultancy, Siegwerk offers a wide range of training modules that cover topics like lean production and process optimization as well as colorimetry and inkroom organization. These modules can be conducted either at Siegwerk or at customers’ premises.

**To learn more please contact us at:**
info@siegwerk.com