

# Bye to the liner

There are many advantages that come with producing linerless labels such as material savings, a reduced transport and storage footprint, and increased productivity, which all adds up to lower cost for the printer. *Michal Lodej* looks at what's needed for linerless label production.

**I**ncreasing those ever important profit margins is vital for flexo printers, and if you are in the label game, linerless labels could be one way to do so. The concept is really very simple, producing labels without that pesky liner, which other than simply holding the label while it waits to be applied onto the product, offers nothing to the customer or the final consumer.

By removing the need for the liner you can achieve more labels per roll with lower costs per item. A lower roll weight will lower transport costs and reduced storage space requirements, and in production more labels per roll leads to fewer roll changes. Another important aspect is that of environmental responsibility; no waste from liner material, which must be collected separately, leads to less waste being burned and reducing CO<sub>2</sub> emissions. In Europe alone, up to 300,000 metric tons per year of paper and plastic liners end in landfill and incineration plants.

To help meet this waste challenge, Evonik's Tego RC Silicones have enabled label systems that require no liners. The product is applied to the top surface of the label, over the printed surface; the labels can then be rolled up without sticking to each other.

The Evonik silicones cure and adhere to the intended surface in just a fraction of a second when subjected to ultraviolet light. With conventional self-adhesive labels, this effect is achieved through heat, which requires more energy. The technology not only reduces waste, but also saves energy consumption compared to label systems with thermally cured silicones. This is referred to as radiation cured and is the RC in the brand name.

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*Linerless labels are an environmentally friendly alternative*

## Take the heat off

For heat sensitive thermal paper the company launched a special product Tego RC 1717 as a solution for direct thermal linerless labels. The coating layer obtained with this product enables the use of more economical thermal paper that has no top coat which results in significant cost savings. Tego RC 1717 is used in combination with both Tego RC 902 and Tego Photoinitiator A18. This blend offers good silicone hold out and improved silicone anchorage, providing stable premium release properties over time and shows outstanding thermal printing performance with no silicone build-up on printing heads. Additionally, substrates coated with the above blend are safe to use in food applications (ISEGA).

With such cost-effective thermal papers available, the technology provides an economic advantage as well as the ecological benefits from reducing wastage and using less energy.

High-quality thermal labels and tags place high demands on the material. The printed image needs a

high resolution and the paper must be resistant to moisture, temperature fluctuations and plasticisers.

Within the label segment, linerless labels are increasing in both retail and logistics applications. They can be used with mobile printers as well as robust industrial printers. Dedicated linerless printers with a special treatment on the transport rollers are available.

Mitsubishi HiTec Paper is a manufacturer of coated speciality papers and has developed thermal paper grades dedicated for linerless applications: thermoscript L.L. 7077 (66gsm) and L.L. 8077 (77gsm). These specialty papers are produced under ISO 9001, ISO 14001 and ISO 50001 and with FSC and PEFC certifications.

The company says that this label material has high dynamic sensitivity, with very good resistance against environmental influences and very good image stability. Chemically speaking the material is Phenol-free and uses a special surface treatment for low silicon absorption while providing good silicone adhesion.

Ritrama SpA, Italian manufacturer of self-adhesive materials has introduced to its product portfolio a labelling solution named DTL, Direct Thermal Linerless. It is a self-wound thermal paper offering many benefits for the retail, food weight scale labelling, logistics labelling, and mobile printing sectors.

According to the company the material's proven construction provides a well tested compatibility between adhesive and silicone to ensure smooth unwinding but offers excellent adhesion to most surfaces. The coating technology used also eliminates adhesive bleed for easy handling and to avoid label edges from lifting. ■