



Vulcan Pack UV overcomes high-quality offset printers' needs

Ensuring high-quality UV offset printing requires modern equipment, highly skilled operators and the correct consumables. When Shimizu Printing implemented UV facilities, the company encountered production and quality issues until introducing Vulcan Pack UV blankets from Gadelius, the Trelleborg's Partner in Japan. They visited the Gunma factory, where plant manager Hitoshi Iwai explained the dramatic improvement achieved by switching blankets.

UV offset: printing on special materials

Shimizu Printing was founded in 1935 in Bunkyo Ward, Tokyo, an area home to many printing companies. Shimizu Printing expanded its business to focus on books and book cases. In 2001, the company installed its first UV press and began printing non-paper materials such as film and vapor deposited papers.

When the company opened its Gunma plant in 2008, it took the opportunity to shift to packaging-related work, targeting high-end products such as cosmetics. Shimizu Printing expanded its facilities to provide everything from printing to post-processing services, including die cutting, assembly and product insertion. The company's main UV press, a Manroland ten-color Roland 700, allows fast throughput of fine print on substrates such as polypropylene, PET, vapor-deposited and Yupo synthetic.



Hitoshi Iwai, Manager of Gumma plant



The Gunma Plant opened eight years ago. The company took the opportunity to shift to packaging-related printing on special materials. The main applications are in cosmetics boxes and daily necessities, items requiring high quality. Shimizu Printing provides everything from printing to post-processing—die cutting, assembly and product insertion—gaining trust as a company to which customers can outsource all product packaging. Its main UV offset press is a Manroland 10-color Roland 700. Ten colors mean that with one pass the press can provide beautiful, fine printing on papers such as pp (polypropylene), PET, vapor-deposited and Yupo synthetic.



Shimizu Printing's Gunma factory

Challenge: ink remaining on the blanket

“Until a few years ago we had issues with the blankets used for UV printing,” says Mr Iwai. “Images from the previous job would remain on the blanket, printing over the images of the next job and leading to print rejection. Also, because heavy papers and other special materials are often used, edge marking meant that blankets needed to be replaced constantly.”

In many instances, new blankets had to be fitted for every job. Each blanket change takes about five minutes; if this had to be carried out on all ten press units, the result was more than an hour of downtime. With around 20 jobs a day this was a considerable burden. Press settings also had to be recalibrated. In some cases blankets were unusable after just five sheets, resulting in stress for the operators, a reduction in production and increased blankets costs.

Improvement through introduction of Vulcan Pack UV

“About two years ago, we had a proposal from Gadelius to use Vulcan Pack UV blankets,” says Mr Iwai. “Once we started using the Vulcan Pack UV, we immediately overcame the



issue of ghosting, reduced the number of blanket replacements, and needed fewer changes after altering paper widths. Today, we generally achieve more than 10,000 impressions per blanket. I don't think it's a coincidence that we eliminated back-trapping, which led to darkened yellows.

"Over a period of two years, the various measures we have undertaken have resulted in a number of major achievements. With Vulcan Pack UV we can print white on PET substrates with very good coverage. Previously, in order to obtain a solid white, we had to make a double pass through the press. With Vulcan Pack UV we can print the same job in a single pass, improving quality and efficiency, while reducing our overall production cost."

Even higher-quality UV offset printing

A blanket must ensure good ink transfer and print quality while providing accurate control of dot gain (the spreading of the halftone dots). These areas improved significantly after introducing Vulcan Pack UV blankets. Because the ink coverage is extremely good, white ink provides effective concealment, so there is no

show-through on transparent films and colors are enhanced. Blacks are deep and solid, with a finish suitable for high-quality products.

The FM screening technology used by Shimizu Printing for its plates results in halftone dots down to 10 µm, half the size typically created via FM screening. The award of the Japan Color certification—the standard for printing color in Japan's sheet-fed offset industry—shows the extremely high standards reached by the company.

Cooperation with materials manufacturers for unique technologies

"Our clients include cosmetics, hair care and other manufacturers, so it's vital to have a system that reliably provides top quality print," says Mr Iwai. "We're really happy with the Vulcan Pack UV, in terms of both performance and cost. We're not a big company, so industry-leading technology and products are essential for us."



Manroland 10-color Roland 700 printing press equipped with Vulcan Pack UV



“At the same time, we love innovation and taking on new challenges! We look forward to working with more diverse materials and different equipment manufacturers, to expand the possibilities of what UV printing can offer.”

Gadelius provides offset blankets and new products with added value to the printing industry, and strives continually to offer innovative technologies that improve efficiency.

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