

Freshly coded - waterproof marking of oral care products

Pharmaceutical company identifies approximately one million Odol® bottles with a single printer cartridge

Clean coding and marking, reduced operating costs, waterproof printing results - these were the requirements GlaxoSmithKline Consumer Healthcare GmbH & Co. KG (GSK) needed for the industrial marking of their products. The pharmaceutical company introduced two thermal inkjet printers at their plant in Herrenberg, Germany.

Everyday, more than 200 million people worldwide use GSK oral care products [see Box]. Their mouthwash concentrate Odol® is widely used in German bathrooms - selected for the seventh consecutive time as the most trusted brand in oral health in a Europe-wide survey of 25,000 consumers.



The mouthwash concentrate is manufactured and packaged in Herrenberg, Germany. Previously, the company used conventional CIJ inkjet printers for the marking of labels on the white Odol® bottles. But the printers became both maintenance intensive and costly to operate. For these reasons GSK decided to switch their CIJ printers for two maintenance-free TIJ printers from aps GmbH (aps) [see Box]. The new printers are built on reliable and clean thermal inkjet technology [see Box].

No more downtimes and high follow-up costs

For a two month trial period, five personnel installed two coding machines in the plant in Herrenberg, each with a print head in two Odol® production lines. The thermal inkjet printers have now been used since August 2008. Per second, they print a 6 digit production code on the coated adhesive of up to three Odol® bottles. Up to 100,000 bottles a day are marked on one line. In the past, GSK could not always achieve this quantity. The previous CIJ printers cost the company on average 30 minutes a day for maintenance and repairs. This wasn't the only downfall. At a standstill, the printer ink would dry out quickly. The result was high costs for repairs and production downtime. Since the new devices use printer cartridges and are maintenance free, GSK has experienced savings in both time and money. The print cartridges are easily installed and removed; ensuring ink does not dry out. The company currently prints around one million labels with one cartridge.

Clean, water resistant, environmentally friendly coding



Even after prolonged use the codes and batch numbers are water resistant and remain legible. The codes allow these products to have full traceability which is required by law. In addition, no hazardous solvents are used, and the cleanliness of the TIJ encoding process increases significantly. "With the previous CIJ printers, the ink spread out like a mist on the assembly lines and contaminated them with colour particles. Today, the colour comes out only at the head," said Dr. Stephen Wurtz.

The investment quickly pays due to low running costs. Due to ease of use, the printers have been accepted by

users immediately. Production staff operates the machine through a graphical interface, which is immediately functional with the flick of the power switch. After a power failure the device restarts in the previously set configuration without loss of time or data. Therefore each employee can use the printer without a great deal of technical knowhow. "In the rapidly turning market for consumer goods, it is necessary that investments on the production side pay within a short time. Due to the low follow-up costs we were able to realize this in the present case" said Dr. Stephen Wurtz.

Use of technology on further production lines is planned

The pharmaceutical company plans to extend their use of TIJ technology to other production lines. With other mouthwash products, the plastic bottles are coated with adhesive foil or so-called sleeves. The smooth plastic film consisting of non-porous material is shrunk to the plastic bottles. Dr. Stephen Wurtz: "We are just in the evaluation phase, and consider using thermal inkjet technology also for this application."



About aps

The aps group with headquarters in Herrenberg, Germany, is a leader in industrial marking and coding, specialising in ink jet technology. Founded in 2000, the aps group is represented with their own offices and stores worldwide in more than 30 countries. With their absolute printer, the company offers the first and reusable, maintenance-free inkjet printer. Both products and packaging can be identified thanks to the large range of ink available. Furthermore, aps offers extensive services such as equipment, spare parts and service for all common industrial printers (Domino®, Imaje®, Linx®, Videojet®, Willett®).

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Identification technologies

1. Printer with continuous inkjet technology

devices give off from a nozzle continuous inkjet

The electrically conductive ink droplets are deflected in a magnetic field and thus generate the contact pressure applied image

- + Rapid identification of almost all materials with MEK inks and Solvents (methyl ethyl ketone)
- + Variable distance between the print surface and print head
- When the pressure stops the ink dries out quickly
- Regular exchange of worn parts
- High cost of repair and consumables

2. Printers with thermal inkjet technology

ink is heated electrically, and in drops on the material to be encoded Mate applied

- + Devices are based on print cartridge principle and do not require movable parts
- + Maintenance-free and clean
- + Print cartridges can be interchanged quickly
- + Cost
- + Easy to use
- Possibility of installation and integration of the device only by qualified personnel

"Strengthen Existing Brand"

"The impact of the global economic and financial crisis is affecting the consumer healthcare industry, as well as many other industries. Decreases in disposable income coupled with consumer reluctance are the factors affecting the cosmetics industry. High-quality brands are in direct competition with cheaper store brands. The added value of a brand along with the development of complex science-based products which are innovative, stimulate the market. To address these challenges and to remain proactive, we have developed a comprehensive range of safety measures. We must respond with new products based on customer needs and strengthen existing brands. The latter succeeds by delivering a consistently high quality that the customer can expect. "

Position Dr. Stephen Wurtz, Production Manager at GlaxoSmithKline Consumer Healthcare GmbH & Co. KG



About Glaxo Smith Kline

GlaxoSmithKline plc. (GSK), headquartered in London, is one of the five largest pharmaceutical companies worldwide. The company was formed in December 2000 from the merger of Glaxo Wellcome and SmithKline Bee-cham and employs more than 100,000 employees. Of these, about 3,200 work at seven locations in Germany. There is GlaxoSmithKline Pharmaceuticals, with divisions of taxable person's prescription medicines and vaccines, and Consumer Healthcare which is represented in the United States. One of the best known healthcare brands in Germany is Odol® mouthwash. The product has a market share of around 70% of the mouthwash concentrate market in Germany and is now regarded as an umbrella brand in oral hygiene environment.