H.C. MOOG is headquartered in Rüdesheim, Germany

A new dimension of sheet-fed printing

H.C. MOOG is a German company headquartered in Rüdesheim am Rhein which is widely known for the design of special printing equipment for the tobacco industry. TJI spoke to Achim Kurreck, CEO of one of the oldest sheet-fed gravure presses manufacturers, and asked him about the latest developments in the industry.

H.C. MOOG was established in 1950 by Henry Cornelius Moog, "who was my grandfather, and he built the first Moog four colour sheet-fed gravure press in 1952. In the next decades, Moog sheet-fed gravure presses became more and more popular for commercial applications. Now, our sheet-fed gravure presses are the most demanded systems in our portfolio and the most innovative sheet-fed gravure presses in the world", comments Achim Kurreck. Gravure printing technology is one of the direct printing processes with the highest printing quality. Gravure quality of the image combined with sheet-fed process allows the manufacture of limited edition and customised printed products in short runs. In Kunming, China, H.C. Moog has installed the biggest press in the tobacco industry for six colours for printing on bundles. "Since 1951, we have been participating in events like the Drupa trade fair which will be held again in 2020. Drupa is an international trade fair for pre-media print, pre-media multichannel, post press, converting, packaging and future technologies. You will find us in Hall 3, Booth A33," adds Kurreck.

A NEW WORLD IN SHEET-FED PRINTING

The new type of sheet-fed press from H.C. MOOG is a TBR-106 system with UV, IR and hot-air drying units. The UV cassette is mostly used to cure the UV-primer, which enables printers to print VMP silver coating with a mirror-like surface, reflecting the light and giving printed material a glossy finish. This is done in the second printing unit. The sheet-fed process has a very low waste level of paper and cardboard. Another advantage is that two sheets of material are fed to control the colour and registration. Without feeding more sheets, customers are able to adjust all printing parameters. After adjusting the feed, the next two sheets are perfectly set. Such a system helps to save paper, cardboard, ink and power by contrast with web technology.

"We developed a four ink pan system to save ink. Each pan contains a different amount of ink, so the printer is able to choose the most suitable pan for the job, especially for expensive inks with very low ink transfer. All ink pans, ink trolleys and ink pumps are interconvertible and operate as one system," explains Kurreck. It is also possible to minimise foil consumption during the hot foil stamping process.

The available inks sheet-fed printing process is the optimal solution. Customers can choose between alcohol, UV or water based inks or varnishes. Gravure prints are almost fully recyclable. ▶

DEEP DIVE INTO SHEET-FED PRINTING

H.C. MOOG uses the latest developments in the printing industry to enhance the performance of its presses. One of those is the high-speed air knife. The high-speed air knife is an ambient temperature high-speed air drying system. The air flow reaches 180km/h and destroys the laminar boundary layer with specially designed nozzles to get the best result in drying. The hot air knife works with the same technology but the air flow is heated to a maximum of 38°C on the substrate surface. The method of using three heated and three ambient drying drums between every printing unit is the key to minimising energy consumption and shrinking the substrate for the perfect registration for the next printing station. Another innovation is an Electrostatic Print Assist (ESA), which is developed and delivered by Spengler Company and is ideal for feed-fed printing. The system uses charging electrodes, which charge the sheet not the pressure cylinder. Therefore, a very good isolation is needed on the backside of the sheet, which is done with the Continental "Black Pearl" pressure blanket. Ink viscosity control is an important part of the process. H.C. MOOG's ink supplying system splits the ink flow in two directions. One is the ink supply for the printing unit and the other ink flow is mixed with the returned ink from the printing unit. The viscosity of the returning and already well conditioned ink is controlled by an OptiColor rotating viscosity sensor or an inline sensor. This depends on which inking systems the printer chooses for his next production. Gravure is the direct printing technology. The transfer of the ink is specified by the gravure cells and a good inking system.

VALUE ADDED SOLUTIONS FOR THE TOBACCO INDUSTRY

H.C. MOOG offers its customers various special solutions for the tobacco industry. Among them are luxury package printing, security printing, label printing, varnishing, conditioning, coating, micro and blind embossing as well as print and colour enhancement by processes combination.

Since the last century, H.C. MOOG has developed sheet-fed rotogravure with its presses, and its direct printing process enables the best transfer of inks and varnishes to a substrate. The process is used in many industries that use decorative and functional printing where the highest printing quality is needed.

"The vision is the mission and to attract most attention to the product on the shelf, mainly in the folding carton

printing business, we have perfected our presses and technology to provide customers and consumers in the tobacco industry with the ultimate experience," comments Kurreck. Multi-colour sheet-fed gravure presses with up to 8 units to create the brand's own identity are virtually endless.

Moreover, H.C. MOOG sheet-fed rotogravure presses are environmentally friendly. Short run machine solutions in space saving configuration are working with clamping cylinder for photopolymer, copper and steel-plates. The use of water based inks and varnishes makes the final product fully recyclable.

The eco-friendly sheet-fed gravure process, the use of metallic ink to substitute foil applications and energy saving initiatives make H.C. MOOG a great partner for tobacco manufacturers.

Tatiana Chaykina

The new type of sheet-fed press with UV, IR and hot-air drying unit

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