

Combination (offset left - offset/gravure right)

WHEN QUALITY REALLY MATTERS



Nick Coombes spoke with Achim Kurreck of H C MOOG about the latest developments in sheet fed gravure and its place in today's market for added value carton packaging.

NC: For those who don't know MOOG, please tell us about the company's background.

AK: The Company was established 65 years ago and is now in its third generation of family management here in Rüdeshheim-Rhein. We have always focused on the customised production of single unit and multi-station sheet fed gravure presses because we believe it is the only process that offers a stable and consistently high print quality.

NC: What makes sheet fed gravure so special?

AK: We believe it stands out because of its flexibility in use that allows it to achieve

unrivalled results. We concentrate on markets like cosmetics, pharmaceuticals, liquor, tobacco and premium foods where the quality of the packaging at point-of-sale has to be conspicuous, effective and of an incomparable design to catch the eye of the customer immediately. The package also has a role to play in brand imaging and in protecting the product. It's at this point that, used in combination with sheet fed offset, gravure can offer enormous development potential.

NC: You describe it as multi-functional technology – what do you mean by this?

AK: It's an all-in-one concept that offers almost limitless innovation and application as a process. Whether inline or offline the converter enjoys maximum flexibility and productivity and complete independence to achieve whatever the customer requires.



Security - micro debossing (with)



Security - micro debossing (without)

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NC: What are some of the distinctive features you can achieve?

AK: Take embossing, for example. As well as being decorative, we can offer 3D effects, security embossing and the finest micro embossing to ensure that the aesthetic features are not compromised and that the security function still works. With counterfeiting on the increase worldwide, customers need to protect their brands with hidden images that do not detract from the product.

NC: The use of inks and coatings are also crucial to the end result, aren't they?

AK: Yes, because in the case of ink it's the tight control of volume that is important to achieve the all-over consistency throughout the print run. With the ink cells being refilled at every rotation of the cylinder, and the doctor blade removing excess ink, we can achieve solid results across a variety of paper, board and even non-absorbent plastic material. We use UV coatings to achieve a high gloss, matt, or textured effect with a variety of gloss grades that can be matched to specific ink pigments. I'd say tactile and raised effects are the norm these days.

NC: Pearlescent and metallic inks are becoming very popular – how do you handle those?

AK: Effect pigments enlarge the colour spectrum by means of gloss, depth, brightness and gradient. As a result, the printed products stand out at the point-of-sale. Gravure works well with the very large particles in certain pigments and this is how we achieve the highest brilliance in ambient light. With metallics, it's the flake shaped pigments that produce a fancy reflection and generate a unique gloss by scattering the light. We can produce both rough and fine effects. Silver metallic symbolises precision, while mixing in yellow or orange pigments creates gold – pearlescents are likewise created and are very popular at present. There are also new inks on the market that imitate the foil effect and are attracting a lot of attention from some of the big carton groups, like Amcor, which has developed its own 'Sunshine Technology'. You print a varnish first and then a very high gloss silver ink. The brand owners are keen to use this technology instead of hot-foil because it's faster and cheaper and is well suited to our best-selling three-colour model.

NC: We've talked concept and theory but how does all this fit with the hardware you manufacture?

AK: Thanks to its inline and offline functions, it offers a high degree of flexibility and utilisation, so the machine can be used for a wide range of individual applications – for example, as a standalone printing press, but also as an upstream or downstream printing press in combination with other sheet fed printing methods. You can choose between the usual gravure printing cylinders or laser exposable photopolymer plates on clamping cylinders. Because the cylinder is a constant size, it is possible to make an instant adjustment to the job both for large or small formats. On our TBR compact line, three types of ink application are possible: conventional gravure printing inks, flexographic water based inks, or UV inks and coatings. They are all compatible with the integrated dryer module to ensure an

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Moog IMG



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This is important because it reduces make ready times

imaging resolution, up to 10,160 DPI, which is achieved by an IR laser. This resolution theoretically corresponds with 600 DPI in printing, so extremely small elements, like those used in security, can be implemented. The digital photopolymer plates can apply up to 24 g/sqm onto the substrate, which gives outstanding results thanks to the high print density.

NC: What are its main benefits and applications?

AK: It not only offers quality advantages over offset and flexo, but also substantially reduces cost, since the laser exposable photopolymer plate gives a precise estimate of the amount of ink required.

Sobranie - printed gravure, black, gold, varnish, then blind embossed with photopolymer plate



Moog TBR Compact

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NC: Gravure is often criticised for the high cost of its cylinders, but I believe there has been progress in this area?

AK: Cylinder prices vary around the world, and are generally lower in southern Europe and Asia than elsewhere. Cost is therefore not so much of an issue in these markets because, with the circumference remaining constant, they can be reused any number of times over a long period. But, for other markets there is now, for the first time in sheet fed gravure printing, a cost favourable and water-washable photopolymer plate, and its quality is top notch. It has very high



The photopolymer plate is suitable for high resolution printing, coating and embossing and is especially good for metallic pigment inks, pearlescent inks, gloss or matt coatings – in fact all functional coatings, as well as special haptic effects.

NC: How does it work?

AK: The cell geometry is adjusted to the respective application during prepress by the variation of the screen ruling and the wall/cell ratio, so the optimum amount of ink is predetermined. This all happens with minimal waste, even on very short runs. For short to medium runs, this new photopolymer plate is definitely the most cost effective process because the printing and embossing plates can be reused several times.

NC: With the latest technology, how does sheet fed gravure stack up with the competition?



AK: There are no big differences in cost, but big differences in the quality of the direct and indirect printing methods. Through the 'all-in-one' principle, MOOG printing presses can produce short runs with special effects with a high degree of cost efficiency. The high print quality is the result of the direct printing method, and by predetermining the exact amount of ink required to fill the variable cell depths, less ink is consumed. This reduces the material cost substantially, and start up waste with MOOG presses is very low in comparison to indirect printing methods. Here again, the

savings in time and cost are critical. The dryer modules, which can be individually combined, feature high speed jets, hot air dryers and UV dryers, as well as infrared dryers. They are all very energy efficient and of an up to date design. This is important because fast drying ensures food grade results, which means that the ink is migration free after drying.

NC: So is there still life left in sheet fed gravure?

AK: No question! We operate in a niche of the packaging market where quality rather than price dictates who wins the order. Our business has changed significantly over the past 65 years, but you'd expect that, and I'm confident that the company will continue with the fourth generation of the family management. ■

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