

Hybrid production of advertising and packaging

GRAVURE. Gravure is best able to display its capabilities in areas that call for a high degree of finishing and consequently it is much used for luxury products in the cosmetics, drinks and tobacco industries. Here, combinations of gravure with other printing processes deliver economy and high quality.

Even if Germany's best known commercial gravure press manufacturer, Koenig & Bauer AG (Würzburg), has withdrawn from this market segment with the sale of its gravure division (Frankenthal) to the Italian specialists Cerutti, the use of gravure printing in a wide variety of ways has not slackened

Whether with sheet, narrow web or wider format gravure presses, the process continues to have much to offer in terms of economics, whether on its own or in combination with other processes such as offset or flexo. A number of manufacturers offer so-called hybrid presses, in which it is possible to swap units for different processes in and out of the line. At this point, it is important to understand that this is not the hybrid technology that has been making waves in sheet-fed offset over recent years. These presses are high cost lines with eight to ten colours, perfecting units and several coaters with the appropriate dryers and extended deliveries. Hybrid technology delivers re-

sults that in many fields allow rapid and simple finishing through inline solutions and the ability to meet customer deadlines.

FLEXIBLE PRODUCTION. However, there are also many printers who have held back from 'inline solutions' involving presses employing several printing processes simultaneously. The key point is that such a combination fundamentally limits the net production speed and with some printers who use hybrid presses the net output is in the region of 8,000 sheets/h. This means that the economic aspects keep on having to be considered when different printing processes or technologies are involved that could be run in parallel, and the flexibility of production comes into the equation.

For example, a 50,000 sheet run would take 6.25 hours to print at a press speed of 8,000 sheets/hour. With a gross output of 18,000 sheets per hour in sheet-fed offset this job could be printed in 2.77 hours. In the time saved, a pure offset press could produce a fur-



Gravure printed gold for a gloss base, followed by offset printing of images for chocolate packaging, for example.

ther 62,640 sheets. The product, however, still needs to be finished and so the pile is placed on the feeder of a sheet-fed gravure press, for example. Printing is then completed at a speed of 11,000 sheets and at high quality. This requires 4.55 hours, a theoretical saving of 1.7 hours in which a further 18,700 sheets could be printed.

MAXIMIZING POTENTIAL SAVINGS.

Consequently, there is still scope for the printer to make savings and this is why some customers of H. C. Moog GmbH



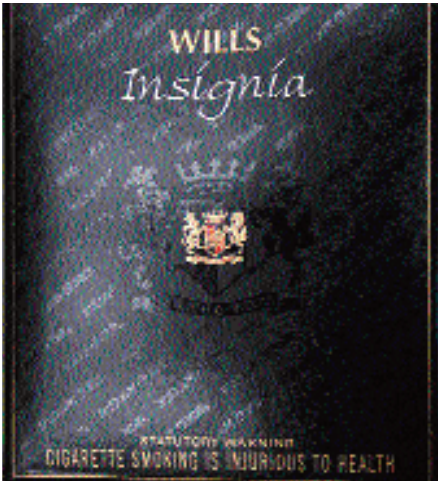
Gravure-printed UV reactive inks on offset packaging, used in Duty Free, for promotions, in bars and clubs.



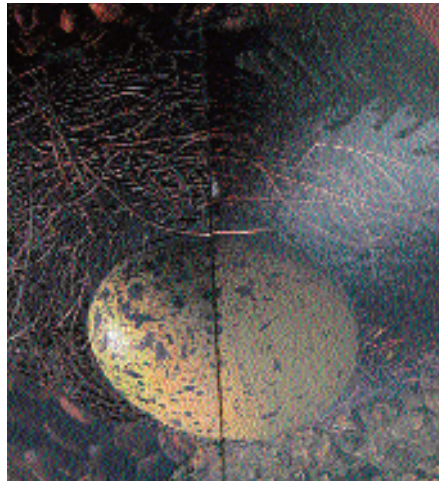
Cigarette packet for the Kool brand, special gravure printed packaging.



Packaging for men's underwear, printed using a combination of gravure and offset.



All gravure printed box lid: brilliant gold, deep black with one unit, matt and gloss coating.



Unembossed (r.) and embossed printing (l.). A 3D impression of depth can be created by embossing on a gravure unit.



Example of a product printed using a combination of gravure and offset—produced of-line.

(Rüdesheim am Rhein), a manufacturer of sheet-fed gravure presses, narrow web presses and other press solutions, favour the of-line combination.

Offset inks are a specific problem in cigarette packet production, since they can continue to release components after the contents are packaged. This may not disturb the smoker but despite low odour inks the taste is still impaired. What is more, these special inks are several times more expensive. Achim Kurreck, Managing Director of H. C. Moog GmbH, talks about this question, “Furthermore, cigarette producers are concerned about the claims for compensation that might result from the burning of the components that migrate into the tobacco. The impact on taste is particularly significant in the case of special product runs. With cheap brands, of course, it’s not important because they do not use high quality tobacco. An intermediate solution for short to medium runs uses gravure-offset production, with six colour gravure printing and four colour offset plus coating for the shock images. This

saves costs with little impact on quality due to offset’s inability to achieve the greater colour depth of gravure. However, I think one can disregard that. There is a standard for the economic production of long runs and this field is covered by companies such as Bobst, ATN and Cerutti. Here, the reels of card are printed by up to twelve units and after printing there are three possible options for handling:

- Unwinding – printing – rewinding; unwinding – sheeting – sheet-fed die-cutting.
- Unwinding – printing – integrated sheet-fed die-cutting.
- Unwinding – printing – integrated rotary die-cutting.

In web printing wastage levels can be as high as twelve percent because of constant register shifts and reel changes. The situation is even worse if the first of the above options is followed, since the technology of sheeters makes them imprecise. The following sheet-fed die-cutter does not therefore usually achieve the required accuracy if it is equipped with mechanical front- and side-lays.

does not matter but for short runs reels can be used cost effectively with the sheeter ahead of the feeder. This makes sense for short to medium run cigarette packets, whilst reels make sense for long run packaging of cosmetics and beverages.

Dr Horst-Dieter Branser

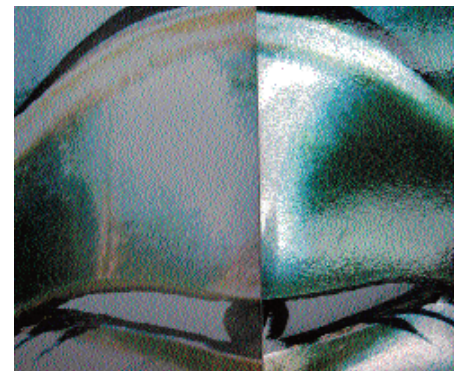


Gravure/offset combination for uniform areas in packaging printing.

ECONOMICS. One possible solution for short to medium length gravure printed runs as follows:

Unwinding – sheeting – feeding – sheet-fed gravure printing – pile delivery. The subsequent sheet-fed processes can then be carried out in register since the reference to the front and side edges of the sheets is defined by Moog gravure presses. The inaccuracy of the sheeter now no longer matters because it has no influence on the register.

Using reels of card with sheet-fed gravure presses offers costs savings of between 10 and 20%, and in many countries in regions such as Asia equivalent material is not available in the form of sheets. For long runs this



Reproductions of a metal mask compared. Pure offset on left. Right, gravure printed silver iridion. Then offset on top.