Value Added Packaging - Tutorial 4.1

FOUR 4.1

USP:	High-gloss holographic effects
Effects:	Holographic hot-stamping foil application for real metal surfaces
Suitability:	Cosmetics industry | Food industry | Tobacco industry
Machine requirements:	Four-colour offset press with coating unit; stamping foil printing press, embossing press
Design requirements:	Distinct motif edges that can be brought out in the hot foil stamping form
Special features:	The job was produced for low migration and is suitable for direct food contact

Description:

Design FOUR 4.1 illustrates the high quality of hot-stamping foil finishing in combination with prior offset printing. We additionally work with debossing on this job, in order to improve the haptics of the design and give it greater optical depth.

Remarks:

When preparing print jobs of this kind for the tobacco and food industries, it must be ensured that all the components used display low migration and have corresponding approvals and certificates. This applies both to the substrate used and to the printing inks and coatings, as well as to the foils and adhesives.

In the job presented here, low-migration inks were processed in combination with a low-migration primer on a likewise certified cardboard. These components are suitable for direct food contact. Provided that the selected printer is also certified, the print job as a whole is thus suitable for use in direct food contact applications.

3D visualisation before going to press was performed using the Esko Studio Visualizer.

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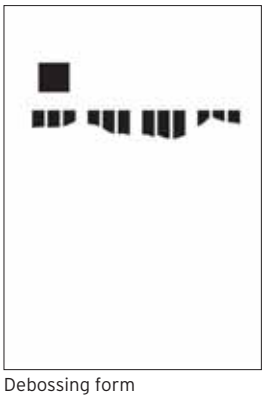
Realisation:

Hot foil stamping form



Debossing form

When designing this job, we first select the suitable colour space. We choose natural colour shades, since the LIGHT LINE Laser Seamless® / AL-XL holographic foil used will itself generate very strong colour nuances and we do not want to overdo the colours of the design. For this finishing example, we specifically decided to work in the field of food packaging, selecting a confectionery packaging as the basic design for FOUR and designing the basic visual elements. The chocolate is designed completely as an illustration in this context. To get the torn-off aluminium foil, we first photograph different views of a crumpled original foil with different exposure settings, subsequently editing the selected picture in Photoshop. Various image flaws are corrected at this point, and the image obtained in this way is then reduced to a greyscale version.

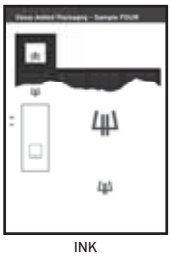
We next create the hot foil stamping form. To do so, we create a spot colour and elaborate all the elements that are later to have a metallic and holographic appearance. All elements are subjected to manual spreading and choking, and placed on top layers in Illustrator so as to overprint. The next step is to create the coating form for the primer in the same way. Again, we work exclusively with solid tones in order to avoid screening of the coating plate. Although there are today also hot-stamping foil applications where the coating form does not need to be cut out, we stay on the safe side in this example in view of the size of the foil applied: we cut out the coating form in those areas where the hot-stamping foil is to be applied. To prevent possible mis-registration between printing and hot-stamping foil application – this primarily being caused by changes in the substrate that result from physical influences, such as temperature and moisture levels – we choke the coating form by a good millimetre relative to the hot foil stamping form. Finally, we create the forms for the debossing. Debossing is used only in the area of the chocolate, in order to optically enhance the depth of the illustration.

Once all the ink and coating forms have been created, we proceed to full-page make-up in 3B format. For subsequent hot foil stamping, we add special register marks to the sheet for the automatic sheet guide of the Masterfoil, then exporting the data in the PDF-X3 (2002) standard after consulting the printer. The colour profile used for this job is ISO Coated V2 (ECI). In Acrobat, we once again check all forms for unwanted separations (in this context, it is always worth while to take a look at Black, in particular), as well as the interplay of the embossing, hot foil stamping and coating forms with the printing form. Since we created all colour channels in a single file, the register accuracy of all forms, or the possible presence of spreading/choking errors, can already be checked during quality assurance in Acrobat.

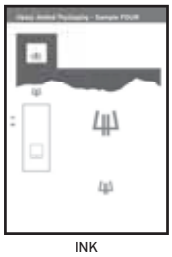
A clear and complete job description for the printer, the toolmaker and the finisher is standard for jobs of this kind and helps rule out sources of error ahead of producing complex print jobs.

For final offset production of this job, we select a 13 cm^3/m^2 engraved roller for the dispersion-based gloss primer, which is applied via a coating plate. The hot-stamping foil is applied using a Bobst MASTERFOIL 106 PR.

COATING
SENOLITH® WB GLOSS
PRIMER FP DC 350071
by
WEILBURGER Graphics

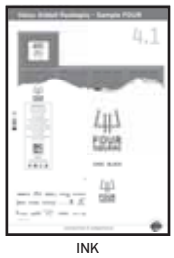


INK
SunPak® LMQ
Process Yellow LMP26
by **Sun Chemical**



INK
SunPak® LMQ
Process Magenta LMP27
by **Sun Chemical**

INK
SunPak® LMQ
Process Cyan LMP25
by **Sun Chemical**



INK
SunPak® LMQ
Process Black LMP46
by **Sun Chemical**