

# Value Added Packaging - Tutorial 2.4



TWO 2.4



## USP:

## Effects:

## Suitability:

## Machine requirements:

## Design requirements:

## Special features:

Metallic effects with strong relief, without material deformation

Combination of offset and screen printing effects

Cosmetics industry | ~~Food industry~~ | ~~Tobacco industry~~

Four-colour offset press with coating unit; screen printing machine; embossing press

Distinct motif edges that can be brought out in the screen printing form

The print job was not produced for low migration and is thus not suitable for either direct or indirect food contact

## Description:

This design is intended to illustrate the interplay of different printing processes. To start, we print a sheet by the offset process, using UV inks and lacquers, then finishing it in a second work step by applying a pigmented relief lacquer on a screen printing system. The main advantage of this finishing with relief lacquer is that the substrate is not deformed, as is usual when using an embossing process. Instead, the reverse side continues to lie flat, despite the relief structure on the top side, which is reminiscent of high-relief embossing. This is quite often requested by customers, especially in connection with printed inner sides of packagings or other print jobs. As a particular highlight of this job, the relief lacquer additionally contains a pigment to demonstrate that these lacquers are still capable of excellent build-up, even if a pigment is added.

## 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 print-ing inks and lacquers, as well as to the foils and adhesives.

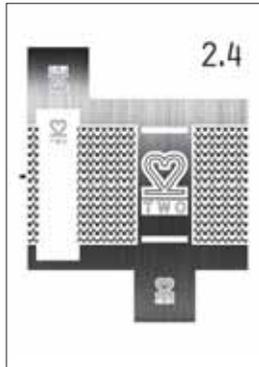
In the job presented here, no low-migration inks were used owing to the UV ink and lacquer system applied in the offset printing step and the additional use of the screen printing process. Consequently, in the form described here, this finishing does not comply with the requirements for food contact applications.

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

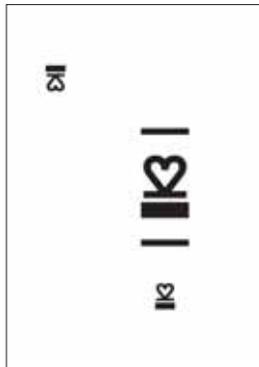
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## Realisation:



UV silver ink



UV screen printing relief lacquer

When designing this job, we first create the wide-area brush structure - which will be applied as a silver printing form - as a greyscale image in Photoshop, deliberately producing large areas of optical glare by means of layer mask gradients. This glare emphasises the metallic effect and gives the design greater depth. The Duplex function in Photoshop is then used to convert this image into a spot-colour image, the highlights and shadows being fine-tuned via the gradation curve. In this context, it must be ensured that there are no breaks in the highlights and that the shadow structures do not fill in.

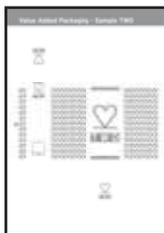
We next import this image in Illustrator, where we instantly find that the colour palette contains the spot colour created in Photoshop. Had we already created the spot colour in Illustrator, we would have to make sure in Photoshop that the spot-colour channel created had exactly the same designation as our spot colour in Illustrator, since two different colours would otherwise be created and output. We now use Illustrator to design the rest of the packaging, lastly creating the screen-printing channel as an overprinting spot colour on the topmost layer.

Once all the ink and coating forms have been designed, we proceed to full-page make-up in 3B format. 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. In the case of large-scale jobs, it is also always worth while to contact all the service providers even during the creative phase and discuss the individual work steps with them. This can help not only to reveal technical problem areas, but also to rule out any technology and/or material incompatibilities. Moreover, when dealing with complex jobs outside the standards, provision should also always be made for rotary proofing, in order to test the interplay of all materials and technologies under production conditions and enable optimisation before the start of production.

For final offset production of this job, we select an 18 cm<sup>3</sup>/m<sup>2</sup> engraved roller for the gloss primer. The UV screen printing relief lacquer is applied via a relatively coarse screen with a mesh count of 43 in order to increase the quantity of lacquer applied and permit trouble-free transport of the Royal Damask pigment, which has a particle size of 10µm.



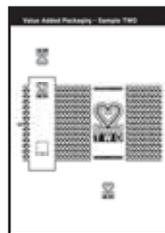
**COATING**  
SENOLITH® WB GLOSS  
PRIMER 350463 by  
WEILBURGER Graphics



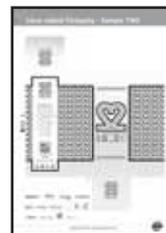
**INK**  
SunCure® Starlux  
Yellow USL26  
by Sun Chemical



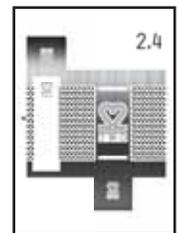
**INK**  
SunCure® Starlux  
Magenta USL27  
by Sun Chemical



**INK**  
SunCure® Starlux  
Cyan USL25  
by Sun Chemical



**INK**  
SunCure® Starlux  
Black USL24  
by Sun Chemical



**INK**  
Silver  
UV A7013  
by Sun Chemical