

Value Added Packaging - Tutorial 5.3



FIVE 5.3



USP:

Effects:

Suitability:

Machine requirements:

Design requirements:

Special features:

Optical/haptic contrasts on mar-resistant matt film - realistic reproduction of water droplets
Matt laminate in combination with a relief coating containing two pigments
Cosmetics industry | ~~Food industry~~ | ~~Tobacco industry~~
Four-colour offset press with coating unit; screen printing machine
Distinct motif edges that can be brought out in the screen printing form
The job was not produced for low migration and is thus not suitable for direct or indirect food contact

Description:

Design FIVE 5.3 illustrates a combination of spot-colour offset printing and finishing by screen printing. In addition, a highly mar-resistant matt laminate is applied prior to screen printing. Finishing by screen printing is performed using a relief coating that displays very high build-up and is additionally enriched with two different effect pigments.

Remarks:

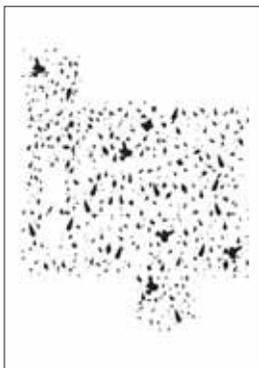
When preparing print jobs of this kind for the tobacco and food industries, it must be ensured that all the components used display low migration and have corresponding approvals and certificates. This applies both to the substrate used and to the printing inks and coatings, as well as to the films and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

In the job presented here, no low-migration coatings were used owing to the UV coating system selected for the screen printing process. Consequently, in the form described here, this finishing does not comply with the requirements for food contact applications.

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Realisation:



Screen printing relief coating form

When designing this job, we first select the suitable colour space. The FIVE product line is intended to reflect a modern, contemporary design and be realised with as little colour and finishing effort as possible. We decide to work with just one, very brilliant spot colour in combination with full-surface black.

We next create the relief coating form to be used in the screen printing step. Since the finishing is intended to simulate water droplets as realistically as possible, we create the droplet structures with the help of a spot colour, making sure to produce the most realistic possible shape and distribution over the entire design. In this context, we also attempt to give consideration to the effect of gravity on the shape of the water droplets when the packaging is upright, in order to make the coated finishing look as natural as possible. To avoid cracking of the cured screen-printed coating in the area of the grooving and die-cutting lines, we also already make sure during this step that no relatively large droplet elements are positioned in these areas. Since the later shape of the droplets is created by the build-up of the relief coating, we do not have to take it into account when designing the droplets and can thus work in two dimensions. The coating form created in this way is now placed on the top layer in Illustrator so as to overprint.

Once all the ink and coating forms have been created, we proceed to full-page make-up in 3B format. After consulting the printer, we then export the file in the PDF-X3 (2002) standard. 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 coating form 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.

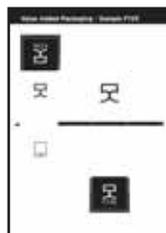
A clear and complete job description for the printers, the toolmaker and the finisher is standard for jobs of this kind and helps rule out sources of error ahead of producing complex print jobs.

For final offset production of this job, we select a 15 cm³/m² engraved roller for the gloss primer, which is applied over the full surface. The full surface of one side of the complete sheet is subsequently wet-laminated with a mar-resistant matt laminate. The screen printing UV relief coating is then applied via a relatively coarse screen with a mesh count of 43 in order to increase the quantity of coating applied and permit trouble-free transport of the Miraval[®] pigments, which have a particle size of 20-200 µm.

On a regular packaging job with this design, the subsequent gluing of the packaging would also need to be discussed, since the glue flaps were not left out in our sample. That is in fact not so easy when laminating. There are two tried-and-tested remedies in this situation: either work with several laminate webs and leave out the areas of the glue flaps, or subject the area of the glue flaps to plasma pre-treatment before the gluing process, as this can improve the quality of the bond.



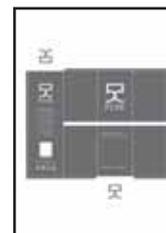
COATING
SENOLITH[®] WB GLOSS
PRIMER FOR FILM
LAMINATION 350602 by
WEILBURGER Graphics



INK
Pantone[®]
NPS 375
by Sun Chemical



INK
SunLit[®] Intense Black
INT24
by Sun Chemical



INK
SunLit[®] Intense Black
INT24
by Sun Chemical