

Value Added Packaging - Tutorial 1.5, 2.5, 3.5, 4.5, 5.5



ONE 1.5



TWO 2.5



THREE 3.5



FOUR 4.5



FIVE 5.5

USP:

Natural look and haptic effects

Effects:

Combination of standard printing, embossing and hot foil stamping on uncoated board

Suitability:

Cosmetics industry | Food industry | Tobacco industry

Machine requirements:

Four-colour offset press with coating unit; embossing press with hot foil stamping

Design requirements:

Distinct motif edges that can be brought out in hot-stamping foil finishing

Special features:

All five designs are based on the same machine configuration and ink/coating sequence (Black/Cyan/Magenta/Yellow/Final coating)

Description:

These five jobs pick up on what is a currently a new trend in the packaging industry: the increasing use of natural and natural-looking substrates. Consequently, all five jobs are based on an uncoated substrate (UPM Fine 300 g/m²), and the colours created for the designs are very largely based on natural-looking colour spectra.

Since these five jobs are to be produced as a mixed form, we decide to use the standard CMYK Euroscale colour space. Solely for the purpose of surface protection, we additionally apply a water-based matt coating, once again leaving out the glue flaps. An autotype screen with 70 lines/cm is selected for platemaking.

Finally, the forms for embossing and hot foil stamping are created. Because both embossing/debossing and the strong matt/gloss effect of hot foil stamping tend to have the greatest impact on uncoated - and thus matt - substrates, we give these finishing forms a very filigree appearance.

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 hot-stamping foils and adhesives.

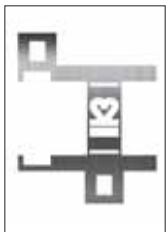
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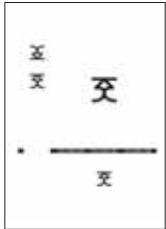
Realisation:



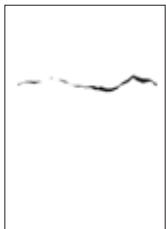
Hot foil stamping form
ONE 1.5



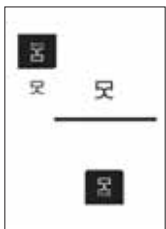
Hot foil stamping form
TWO 2.5



Hot foil stamping form
THREE 3.5



Hot foil stamping form
FOUR 4.5



Hot foil stamping form
FIVE 5.5

The well-considered selection of the Euroscale colour space makes the fundamental design of these five jobs relatively simple, since neither spot colours nor coating forms have to be used for the printed elements. But even in this case, we still have to ensure that the clear design line of the five basic layouts is preserved - and also that the fundamental designs already give consideration to all the elements that are to be embossed or laminated with hot-stamping foil in the subsequent production process. This generally means that we have to work with sharp edges for hot foil stamping, and that all printed elements realised in hot-stamping foil have to be omitted in the four-colour set in order to avoid slight register inaccuracies between the printing and finishing steps.

It must also be borne in mind that, both for embossing/debossing and for hot foil stamping, additional clearances for the dies relative to the grooving and die-cutting edges of the technical form have to be observed. Depending on the tool, they are usually between 5 and 8 mm, meaning that all embossed or stamped elements must be placed at least this distance away from the grooving and die-cutting edges. Since we decided to work with two separate finishing steps for these jobs, and all jobs are grooved and microperforated by means of a single tool, we can neglect this requirement for the sample in question here. However, we have to make sure not to create any embossings or stampings that run over groove edges, since these would give rise to untidy edges when later folding the box.

The embossing/stamping forms are now created as spot colour forms on the basis of the die-cutting contour. Halftones can also be used in this case, in order to create three-dimensional embossing dies with soft edges or reliefs. The toolmaker need only be told whether embossing or debossing is involved, and which halftone value is to have zero level. As a result, combinations of embossing and debossing are also possible, which can greatly enhance the haptic and optical characteristics of the embossing, given an appropriate substrate.

Once all the ink and embossing/stamping forms have been created, we proceed to full-page make-up (in 3B format in this instance). Since not all jobs are to be embossed or laminated with hot-stamping foil, we pay attention during imposition of the jobs to ensuring even distribution of the embossing/stamping forces later occurring during finishing. This means that the designs with the most pronounced embossings/stampings are distributed symmetrically over the sheet in order to avoid one-sided loading of the embossing/stamping machine from the outset. This not only helps to reduce machine wear, but also results in more uniform elongation of the substrate and, therefore, smaller register tolerances of the final printed and finished products.

A clear and complete job description for the printer, the toolmaker and the finisher should be standard practice for jobs of this kind and usually helps to 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. As a general rule, 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 a 13 cm³/m² engraved roller for the dispersion-based matt primer, which is applied via a coating plate. The hot-stamping foil is applied using a Bobst MASTERFOIL 106 PR.