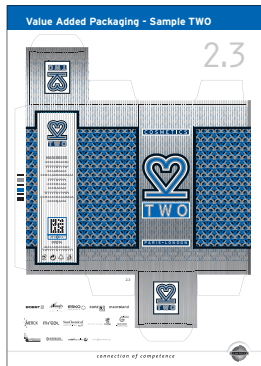
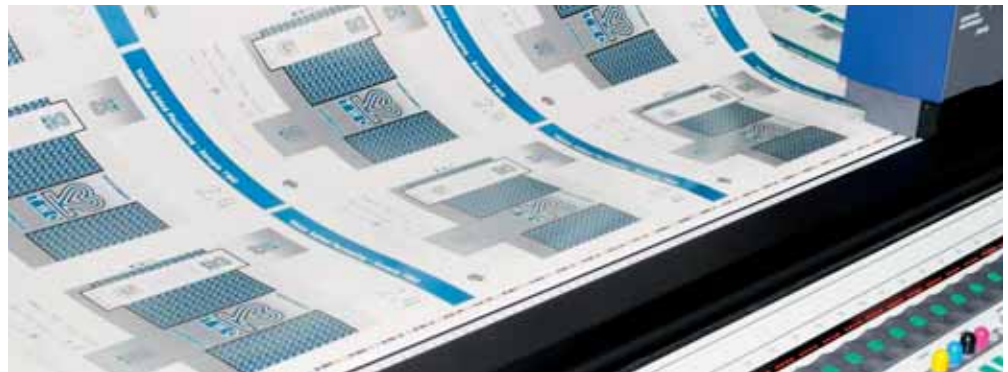


# Value Added Packaging - Tutorial 2.3



TWO 2.3



**USP:**  
**Effects:**  
**Suitability:**  
**Machine requirements:**  
**Design requirements:**  
**Special features:**

Haptic and optical coating effects  
New chip-off effect  
Cosmetics industry | ~~Food industry~~ | ~~Tobacco industry~~  
Four-colour offset press with coating unit and UV equipment  
Distinct motif edges that can be brought out in the effect coating form  
The print job was not produced for low migration and is thus not suitable for either direct or indirect food contact

## Description:

Design TWO 2.3 presents a new coating effect, introduced under the name „chip-off“. Chip-off effect coating is a form of two-component coating finishing that can also be applied on single coating machines with UV drying.

The innovative effect is based on the different surface tensions of the two coating components, this creating an optically and haptically perceptible 3D structure. In the case of full-surface application of both of the coating components, this inhomogeneous structure can best be described as „dried foam“. However, variation of the two coating forms also makes it possible to create effects reminiscent of the surface structures of oxidised metals, polystyrene or foamed plastics. The optical effect can be further intensified by adding effect pigments. The special feature when working with incorporated pigments is that sharply defined edges are formed in the top coating in the second step as a result of the breaking-up of the coating surface. This causes spatial reorientation of the effect pigments in the coating during drying, in consequence of which the pigments in the top area of the uppermost coating create different interference than in the homogeneously oriented inner area. A combination of different pigments in the first and second coatings is possible, as is a combination of two different pigments in the final, top coating.

On printing systems with full UV equipment, this system is applied by means of two passes through the machine.

## Remarks:

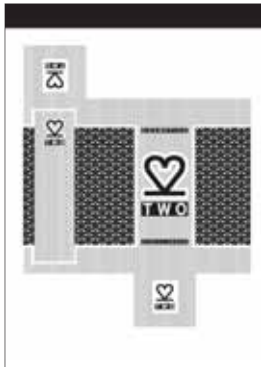
When preparing print jobs of this kind for the tobacco and food industries, it must be ensured that all the components used display low migration and have corresponding approvals and certificates. This applies both to the substrate used and to the printing inks and coatings, as well as to foils and adhesives.

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

# Value Added Packaging - Tutorial 2.3



## Realisation:



Chip-off effect coating form

When designing this job, we first select the suitable colour space and design the basic elements. The next step is to create the form for the chip-off coating to be applied in the second machine pass. Although the appearance of the chip-off effect can also be very strongly influenced by targeted combination of the two coating forms for the basic coating and the effect coating, our intention in this example is to illustrate that a reduced form of the effect can also be obtained with just one coating plate. Consequently, the basic coating is designed to cover the full surface, apart from the glue flaps, and only the effect coating is given a filigree look. Since the effect is highly dependent on the size of the design elements, we bring out not only fine line structures, which will later only be perceptible by touch, but also larger coating areas over the product logo and in the head area of the sample. The coating form created in this way is then 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.

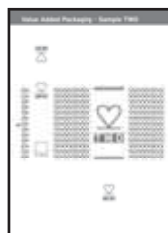
A clear and complete job description for the printer, the toolmaker and the finisher is standard for jobs of this kind and helps rule out sources of error ahead of producing complex print jobs.

For final offset production of this job, we select a 13 cm<sup>3</sup>/m<sup>2</sup> engraved roller for the full-surface application of the basic coating. The sheet then has to dry for at least six hours in order to obtain the maximum chip-off effect. The pigmented effect coating used in the final step is then applied at the lowest possible speed (3,500 - 4,000 sheets/hour), using a 22-25 cm<sup>3</sup>/m<sup>2</sup> engraved roller. This ensures that the largest possible coating quantities are available for the effect, and that all the Arctic Fire Colorstream<sup>®</sup> pigment with a particle size of 5-50 µm can be transported.

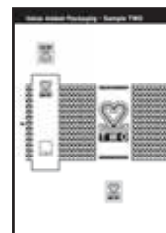
In this final printing step, the chip-off effect can again be varied quite strongly by means of the contact pressure of the coating plate. The higher the pressure, the finer the final structure of the effect. Consequently, matching of the print job on the press is essential when using this effect and should already be taken into account when planning the job. It must similarly be borne in mind with this finishing method that the effect varies slightly from one sheet to the next. Therefore, perfect reproduction of the effect is not possible, which is why use of this finishing in the field of trademark protection is likewise currently being examined.



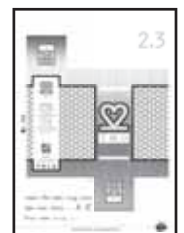
COATING  
SENOLITH<sup>®</sup> UV BASE  
COATING CHIP OFF  
360600 by  
WEILBURGER Graphics



INK  
SunCure<sup>®</sup> Starlux  
Magenta USL27  
by Sun Chemical



INK  
SunCure<sup>®</sup> Starlux  
Cyan USL25  
by Sun Chemical



INK  
SunCure<sup>®</sup> Starlux  
Black USL24  
by Sun Chemical