

## 01 MULTI-LAYER-PRINTING

Multilayer printing may be interpreted as the professional approach to large format digital print.

## 02 PROCESS

In principle printing heads in carrier are in a manner of speaking divided into three parts – data can be fed separately to each of the three parts (printing heads) as if it were a single printing machine. But the big difference and at the same time the biggest advantage is all three printing processes happen at the same time – three images exactly on top of each other are printed onto print medium at the same time.

One of the most prominent features the white option (layer 2) which is produced as a means of overlay/intermediate layer between layer 1 (bottom layer) and layer 3 (top layer) This white intermediate layer offers a new approach to use, it also could be used for optical effects. Multilayer printing process is differentiated between prints on not backlit or on backlit media.

## 03 NON BACKLIT MATERIALS

### → MLP BACK AND FRONT



The so-called „back and front“ process involves printing highly transparent carrier materials such as transparent adhesive films in a printing process in such a way that different grafiques are visible on the front and on the back of the laminated carrier film (e.g. on glass).

In most applications, these transparent films are laminated onto glass panes with the aim of having different grafiken visible on the inside of the building and on the outside of the building.

In this application, the second layer (white option) is printed fullyflusually between the two grey layers and fulfils the function of an optical separating layer, which at the same time forms the white background for both grey layers.

- **PREPARATION OF PRINTING DATA AS FOLLOWING:** For this purpose, a front or back side is created for which it is important to note that texts and logos must be mirrored depending on the view. A separate channel or layer in a solid colour (White\_Ink) contains those elements that are to separate the front and back of the print by a white layer.

### → MLP WHITE BACKGROUND



In the so-called „white-background process“, only two print layers are used. First, a layer is printed completely in white on a coloured or already inked medium.

This application is mainly used in the field of textile architecture where, for example, black or silver net membranes are to be printed with logos and motifs. The white „primer“ also makes it possible to produce full-value photo motifs on dark backgrounds.

- **PREPARATION OF PRINTING DATA AS FOLLOWING:** For this purpose, a channel or layer is created in a solid colour (White\_Ink) that contains the elements that are to be highlighted in white.



## 04 BACKLIT MATERIALS

### → MLP - BLOCK OUT PRINT



This so called block-out print is used in order to enhance parts of images (CI-characteristics or special Details) usually in backlit large formats (placement in light boxes).

For this type of three layer print top and bottom layer receive the image prints and the intermediate layer will be printed in all white where certain spots are omitted – leaving openings for more light to pass through.

Optically those omitted spots seem to be deeply shaded. Usually used in order to enhance product details and for logo placements in premium light boxes.

Do not underestimate complexity – this process requires very skillful and detailed knowledge of process as well as experience.

- **PREPARATION OF PRINTING DATA AS FOLLOWING:**  
A channel or layer in a solid colour (White\_Ink) is created that contains all elements that should NOT be highlighted in the backlit state. The back layer is used for the doublestrike and gives opacity to the backlit elements.

### → MLP DAY AND NIGHT



The so-called „day and night process“ can be described as a special method for producing a special effect.

The special feature here is that the first layer contains grey components that the third layer does not. The full white layer (layer 2) optically blocks the grey from layer one when it is not backlit. When backlighting occurs, the effect is that all grey components from layer one also become visible on the viewing plane.

These applications are found, for example, in fade-in, fade-out light boxes. Without backlighting, the vehicle is only visible as a closed body; with backlighting, the interior of the vehicle is revealed.

- **PREPARATION OF PRINTING DATA AS FOLLOWING:**  
The motif that is to be visible in the backlit state is created in the lowest layer. This is followed by a channel or layer in a solid colour (White\_Ink) which overprints all elements that are NOT to be visible in the backlit state. The foremost layer shows the „daylight motif“.

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