

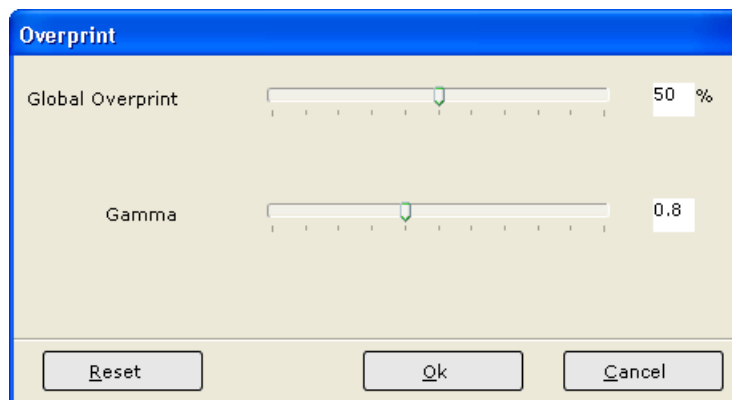
OVERPRINT SETTINGS IN COLOR EDITOR - TECHNICAL BACKGROUND INFORMATION

This document explains the purpose of the overprint settings and gives examples to show the effect that is achieved by applying different combinations of global overprint and gamma settings.

General

The settings in the Overprint dialog are used to simulate the overprint behavior of spot colors with other spot colors or process colors, e.g black. As there is no standardized measuring method and no charts for depicting satisfactorily all the possible combinations of spot colors and process colors, empirical values are used instead.

Overprint dialog in EFI Color Editor

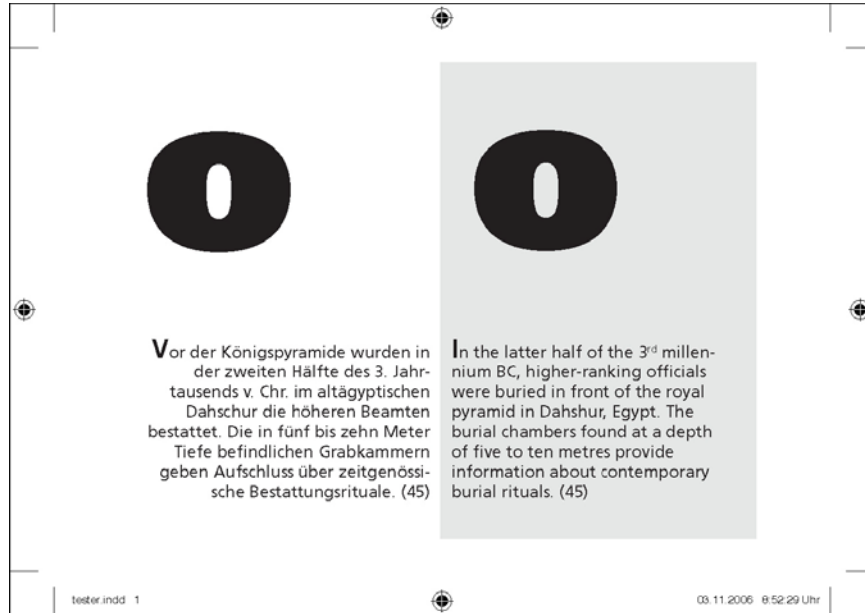


The effects of overprinting

The following illustrations demonstrate the effect of different global overprint and gamma settings on a source file. The source file consists of the colors Pantone 427M and Black, each overprinting the other.

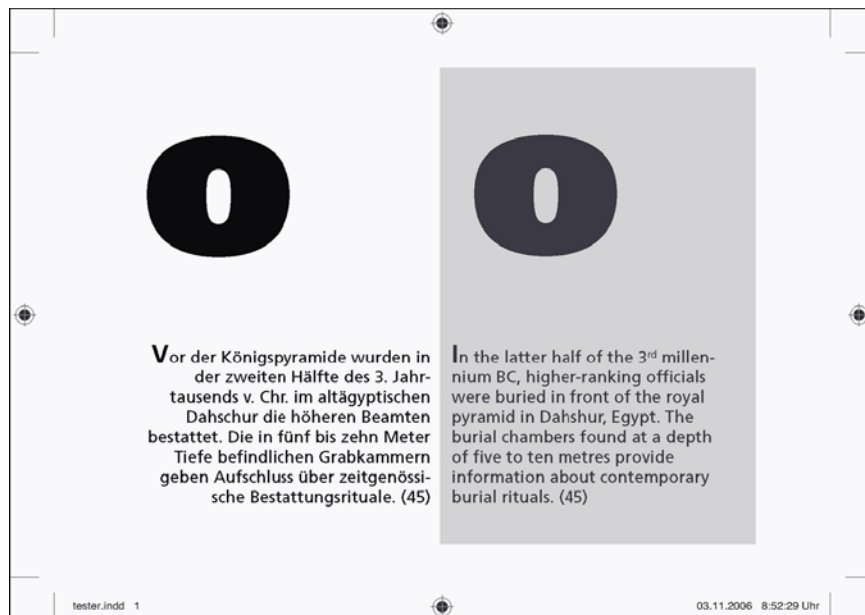
Example 1 shows the source file as displayed in Adobe Acrobat.

Source file as displayed in Adobe Acrobat



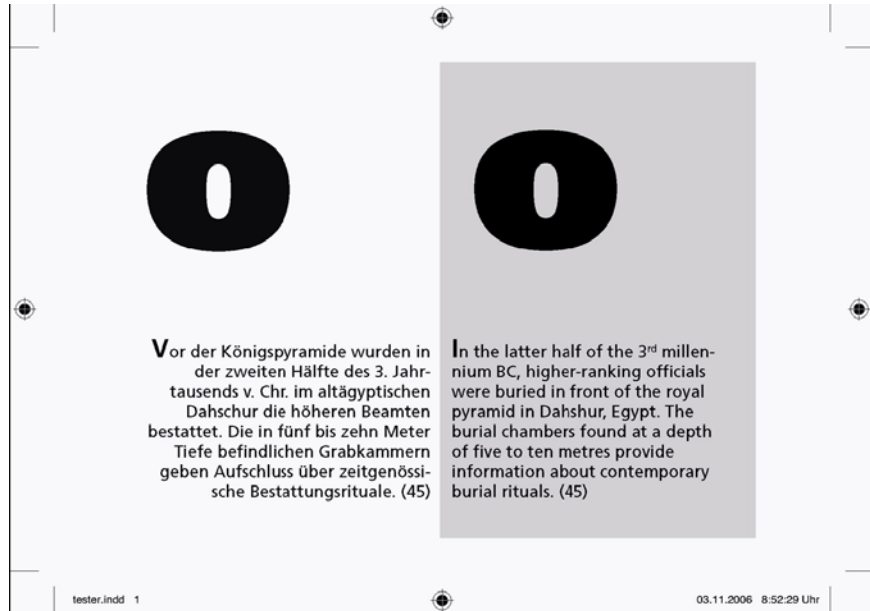
Example 2 shows the effect of processing the source file with a global overprint setting of 50% and a gamma value of 0.8 (default values in EFI Color Editor).

Source file with an overprint of 50% and a gamma value of 0.8 applied



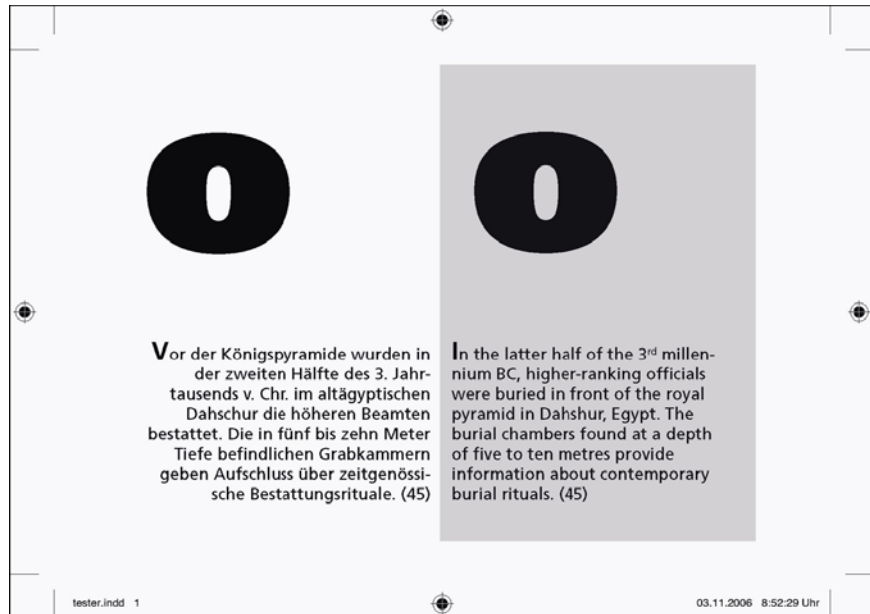
Example 3 applies a global overprint setting of 100% and a gamma value of 1. These correspond to the settings for ideal transparency.

Source file with an overprint of 100% and a gamma value of 1.0 applied



Example 4 represents the effect of a global overprint setting of 80%, combined with a gamma value of 0.8.

Source file with an overprint of 80% and a gamma value of 0.8 applied



You will see the effects of the different settings more clearly if you print out this document.

In the image that uses the default settings (example 2), you will observe that the “O” on the right (printed on the Pantone background) is lighter than the “O” on the left. You can confirm this by measuring the color values in Adobe Photoshop, if you wish.

This is the exact effect that can occur on a printing press and is the result of less color being applied for each successive coat of ink. In other words, if the Pantone background is printed using 100% ink, the substrate absorbs less (approx. 80%) of the following color because it is being printed on wet ink. The same effect is achieved if the colors are printed the other way around, i.e. first the black “O” and then the Pantone background.

With this in mind, it is correct for us to lighten the “O” in a proofing situation. However, the amount by which the second color is lightened depends on the individual printing press and its particular characteristics. The degree of lightness is not saved in the ICC profile and cannot be mathematically predicted from the information available. Therefore, the default setting is based on a presumption.

Example 3 shows how, by using a global overprint setting of 100% and a gamma value of 1, the colors can be ideally processed so that they are still 100% transparent and no trapping or light trapping occurs. This was the default setting in the software up to Best Colorproof version 5.0.

However, for many customers, particularly in the packaging industry, the result was too dark, and so the default settings were modified in successive software versions. The current default settings in EFI XF are 50 for global overprint and 0.8 for gamma.

Example 4 shows the effect of a compromise between the two sets of default values. Users should experiment with the settings until the desired result is achieved. For example, different values are needed to simulate the effect of flexo printing.

In the 80/0.8 settings of example 4, the spot color is reduced to 80% of its size and a gamma correction of 0.8 is applied whenever the spot color is output with another spot color or process color.

The gamma setting takes into account the dot shape, angle and screen ruling and simulates the fact that less overlapping takes place in the light tones than in the deep or mid-tone areas. This results in a non-linear relationship, whereby smaller dots are printed in the “gaps” of the color underneath. Generally speaking, it can be said that the greater the area coverage, the greater the likelihood of overlapping.