

Troubleshooting Color for Offset Printing

Working with Color in Indesign

Panels

- o Window > Color (F6)
 - Use for “casual” color selection. Do not use to specify a new color for a page element.
 - Best for setting the tint of an existing swatch color.
- o Window > Swatches (F5)
 - Used for more “formal, methodical” color selections.
 - This is the panel to **define and manage** your colors.

Swatch Panel Iconography

- o Swatches can be either **Process** (🖨️) or **Spot** (📍) colors.
- o They can be defined using the **CMYK** (🌈), **RGB** (🌈) or **LAB** (🌈) color models.
 - However, always use **CMYK** for print. Period.
- o The 📍 indicates the Registration color.

Special Swatch Entries

- o [None]
- o [Paper]
 - By editing the [Paper] swatch, you can change the color of the paper as it appears in InDesign.
- o [Black]
 - See display options on next page.
- o [Registration]
 - All inks outputted at the time of printing (including spot colors).

Separations Preview

- o Window > Output > Separations Preview
- o Creates a preview within InDesign or how each individual printing ink plate will appear when sent to a commercial printing press.
- o Separations often reveal errors and inconsistencies in the technical make-up of ink in a publication.
 - This enables you to proof and troubleshoot a document before it gets put on the press, saving you and your clients money.
- o The Separations Preview panel can show the **ink usage** and **total ink** of an artwork area simply by moving your mouse over your document.
- o You can correctly view **Overprint** and **Knockout** areas of a layout before printing them out.

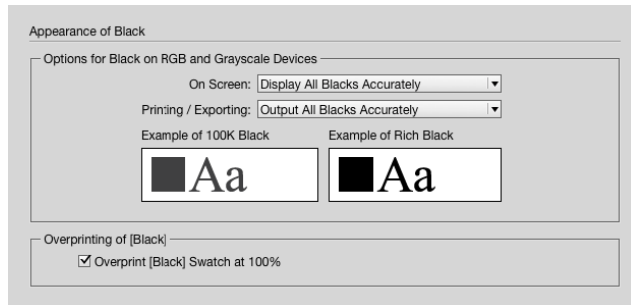
Flattener Preview

- o Window > Output > Flattener Preview
- o A tool to identify and diagnose elements with transparency and rasterization.

Working with Color in Indesign (Continued...)

Display of Black

- o InDesign > Preferences > Appearance of Black to control its appearance.
- o For print work, be sure to set the display of black to Display All Blacks Accurately for on-screen viewing, and Output All Blacks Accurately for printing & exporting.



Overprinting & Knockouts

Knockout

- o Defined: Removing the ink beneath another color.
- o Ensures that unwanted ink will not contaminate a desired color.
- o Is the default setting in most print circumstances.

Overprint

- o Defined: Printing one ink over another.
- o Done to help prevent color registration errors, especially with type over a colored background.
- o By default, **Black ink printed at 100% overprints** all other inks (since it is the most dark and opaque ink).

Composite Example:

100% black G placed above a light blue background. (65c, 25m, 10y, 10k).

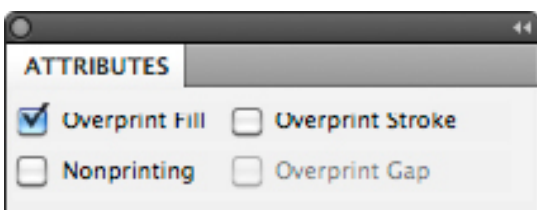


Fill set to Overprint:

(default for text)



Fill set to Knockout:



Attributes Panel

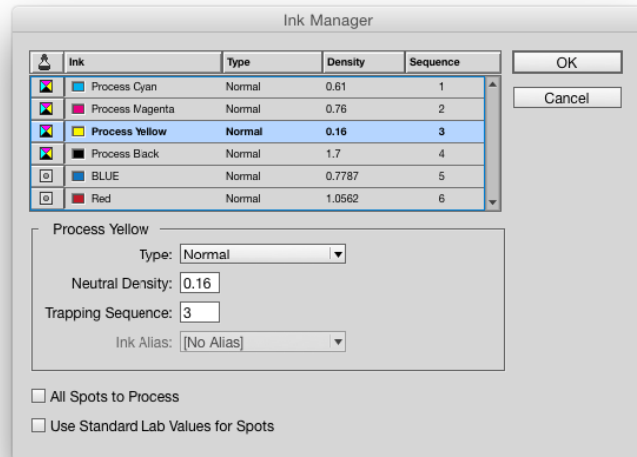
- o Provides control of overprinting for specific page elements.
- o Window > Attributes
- o Overprint Fill forces InDesign to overprint the fill of an element.
- o Overprint Stroke forces InDesign to overprint the stroke of an element.
- o Overprint Gap controls the printing of color applied to the open spaces in dashed, dotted, or patterned lines.

Overprinting & Knockouts

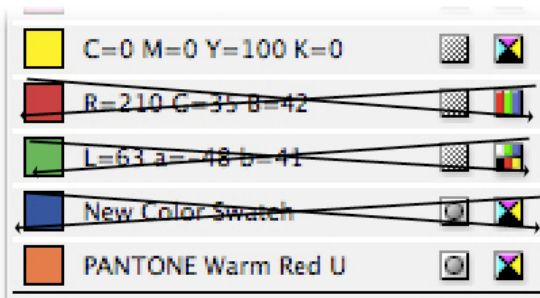
Ink Manager Panel

- o Swatches Panel Submenu > Ink Manager...
- o Provides control over inks when output.
- o Allows for the re-mapping of inks, including the conversion of Spot color to process colors.

o Example: CMYK plus two Spot colors



Troubleshooting Color in Indesign



Make sure your swatches are in the CMYK color mode.

- o No RGB or LAB-based colors

Make sure Spot colors are Spots, and Process colors are Process.

- o Use Separations Preview to see exactly how many plates you'll be generating.
- o Use Window > Output > Preflight to check on the status of your inks.

Don't change the name of Spot colors—ever! This goes for both Illustrator and InDesign.

- o Remember that imported .eps and .ai files that contain Spot colors will add their Spot colors to the Swatches panel.

Use tints of existing colors instead of defining new ones

- o If the base-color of a tint is changed, all occurrences of that color are changes as well.

Use Window > Output > Flattener Preview to view potential problems area with transparency in your document.

Name your Process colors with the CMYK values.

- o InDesign does this by default—use Name with Color Value option.

Remove unused colors from your Swatches panel from time-to-time, and before sending the job in for printing.

- o Use the Swatches panel sub-menu > Select All Unused

Add existing non-Swatch colors to your Swatches panel automatically.

- o Use the Swatches panel sub-menu > Add Unnamed Colors

Device Dependency

Device-Dependent Color

- o A digital representation of color that is tied to a specific device.
- o Every device has a different color gamut—that is, the range of colors a device can read or create.
 - CMYK value will look different on different printers.
- o Examples:
 - RGB on a computer monitor, TV, or projector (think of the different color on all those TVs at an electronics superstore, or the monitors in the lab)
 - CMYK when printing (think CMYK for the VC Color Printers vs. your home inkjet printer)

Device-Independent Color

- o A method of storing color information that represents absolute color.
- o When given a color number in a device-independent color model, that color will always be the same, regardless of other factors.
- o LAB is the leading device-independent color model.
- o All color must be converted to a device-dependent color model for viewing via a color lookup table.

Working with Color Spaces

Overview

- o Color spaces are a mathematical representation of the range of a real-world color device.
- o Color spaces directly map colors in an image to colors of an input or output device.
- o Scanners, monitors, mobile devices, TVs, and printers have unique color spaces, though some attempt to share one in common.

Two Key Color Spaces

o sRGB:

- A narrow-gamut color space for computer monitors, TVs, etc.

o Adobe RGB:

- A wide-gamut color space for prepress photo retouching and editing.

- o Both of the spaces use the RGB color model, but produce different results for the same color number. This makes RGB a device-dependent color model.

- o The screenshot is from Apple's ColorSync utility. Note how a color has different numerical output values, depending on which color space is used.

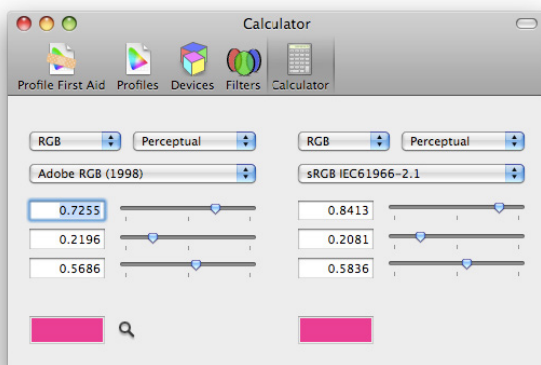
Two Other Color Spaces

o ProPhoto RGB

- Somewhat new, and not used very often.
- Extra-wide gamut, encompassing 90% of the colors in LAB.
- 13% of the colors are imaginary colors that do not exist!

o P3

- Another wide-gamut alternative to sRGB
- Began as a color space for digital cinema projection
- Similar in gamut to Adobe RGB, but does not cover as many of the key colors used in offset printing.



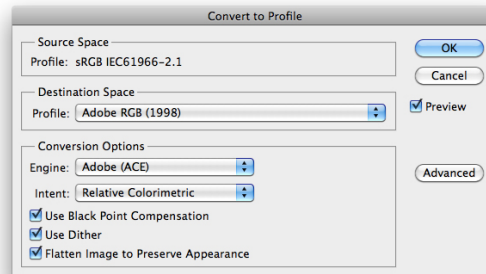
Conversion in Photoshop

Edit > Assign Profile...

o To begin managing a non-color-managed image.

Edit > Convert to Profile...

o To permanently convert a managed image from one space to another.



Spot Colors

Defined

o Spot colors are inks tinted to a specific color.

o This allows for a designer to add color to a document without the expense of using fullcolor offset printing.

- For example, a newsletter might use black ink plus one Spot color (blue, etc.)

o Spot colors also allow for the use of specialty inks, like metallic and fluorescent colors that cannot be re-created using Process colors.

o In the U.S., the color standard used for inks is the

Pantone Color System.

o InDesign and Illustrator have a number of built-in color swatches from Pantone, as well as other vendors.

Spot Colors in the Adobe Creative Suite

InDesign Swatch Panel Iconography

o Swatches that are Spot use this  icon .

o You can access **Spot** color libraries from with the Swatch panel's sub-menu.

Illustrator Swatch Panel Iconography

o Swatches are either Process (plain icon) or Spot (small dot icon to the right) colors.

o A **Global color** is a swatch that is automatically updated throughout your artwork when you edit it. Global swatches are much more powerful than standard swatches.

o To access the swatch libraries in Illustrator, open the Swatches panel, and from the panel sub-menu, select Open Swatch Library > Color Books > swatches.

Photoshop Spot Colors

o Spot colors are used in Duotone images, or as individual channels in the Channels panel.

o When converting an image to a Duotone, one or more Spot colors can be added.

o To add a generic Spot channel to a Photoshop file, select New Spot Channel... from the Channels panel sub-menu.

o Spot colors can be used with the Multichannel color mode. You can convert an image into Multichannel by selecting Image > Mode > Multichannel.