

Printing with Profiles - Adobe InDesign

*Usage of ICC printer profiles; written for Adobe® InDesign®
versions 3 (CS), 4 (CS2), Mac OS® and Windows®.*

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1. Introduction

This document is a guide on how to print documents from Adobe® InDesign® using ICC profiles. It is also written to promote the use of Midox Color's Profile Service, a convenient and affordable way to obtain professional custom ICC profiles.

To be able to create an ICC profile for a printer, a testchart needs to be printed. A testchart consists of one or more image files containing a number of patches. The print(s) from a testchart can be measured using a spectrophotometer and these measurements can then be used to create the profile. Midox Color has several testcharts available for creating ICC printer profiles, which are free to download from the Midox Color website:

<http://www.midox.nl/en/downloads.html>

or:

<http://www.midox-color.com/downloads.html>

For most users, who print directly from an application to a printer on their computer, an RGB profile is the correct choice. This is because most printer drivers - for Mac OS® and Windows® - are created to handle RGB data. Midox Color has two testcharts for creating RGB profiles, of which TC9.18 is most used for professional photo output. TC2.83 is less accurate (created from fewer patches), but still gives high quality results, ideal for evaluation prints on cheaper materials. Testcharts currently available:

RGB TC2.83

For creating RGB profiles using the TC2.83 standard.
Patch amount: 283

RGB TC9.18

For creating professional RGB profiles using the TC9.18 standard.
Patch amount: 918

CMYK TC3.5

For creating CMYK profiles using the TC3.5 standard.
Patch amount: 432

CMYK ECI2002

For creating professional CMYK profiles using the ECI2002 standard.
Patch amount: 1485

All testcharts come in multiple lay-outs and can be used for paper sizes as small as A6; (4x6 inch / 10x15 cm borderless). Not sure which testchart to choose? Or would you like to create printer profiles for Hexachrome, CMYK-RB, CMYK-RG or a custom multicolor setup? Please contact Midox Color.

Note: All profiles created by Midox Color comply with ICC Specification Version 4 (or Version 2 if requested).

2. Preparation

2.1 Color Settings in InDesign

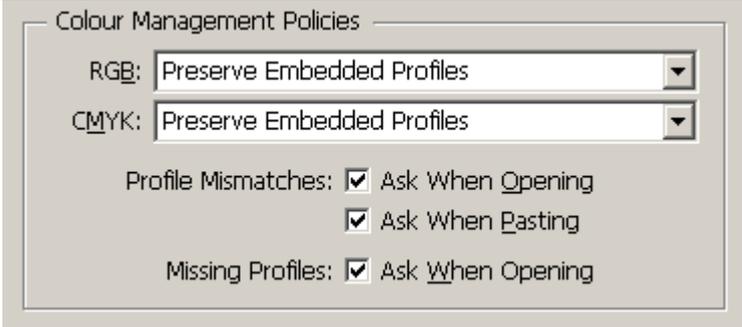
Before you open any files, please check the color settings in the application. To open the Color Settings dialog in InDesign, choose from the menu:

Windows / Mac OS: **Edit > Colour Settings...**

Being cautious it's wise to save your current settings; in the upper right corner of this dialog you'll find a button to **Save...** settings. If you already saved the desired settings from Photoshop®, select the preset from the list of settings or click **Load...** and browse to the CSF file. (Version 3 only: please enable **Enable Colour Management.**) Enable **Advanced Mode** to view all settings.

Please check the following settings:

Colour Management Policies

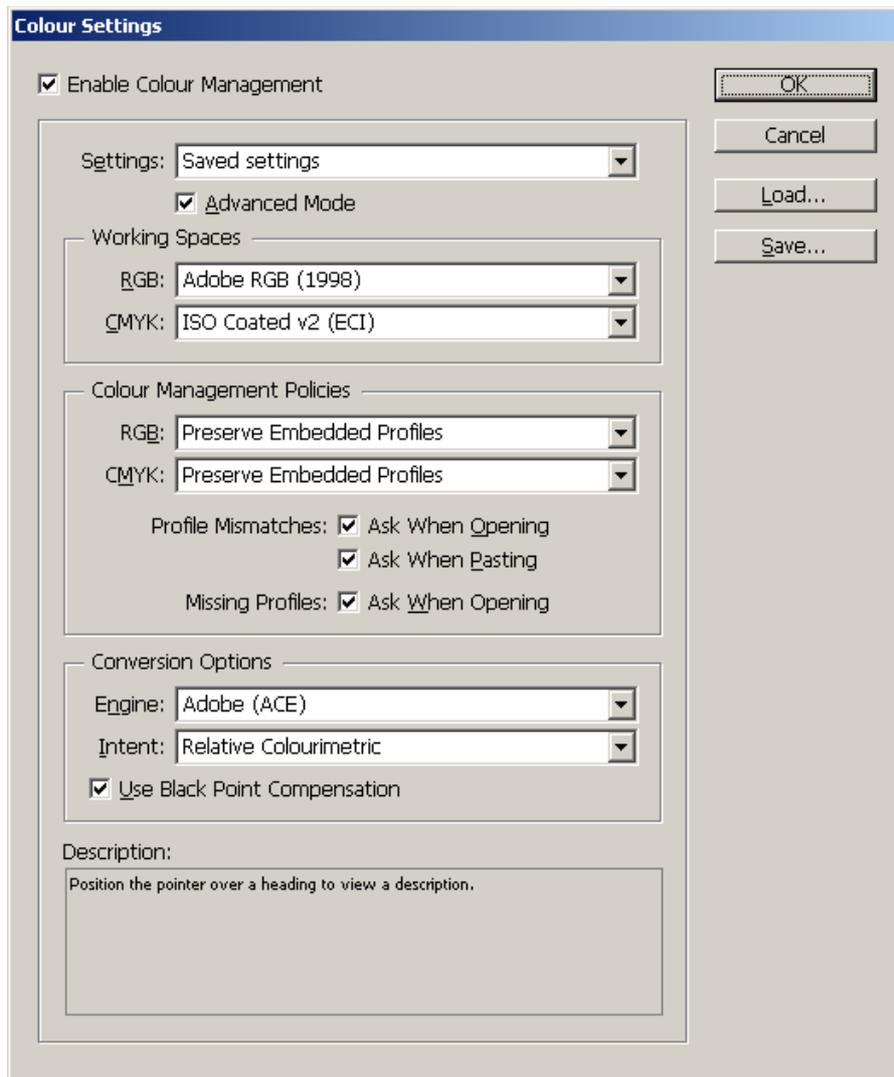


For all options please choose: **Preserve Embedded Profiles.**

Also enable **Ask When Opening (2x)** and **Ask When Pasting.**

Midox Color recommends using these settings in this section of the dialog. It makes sure InDesign handles files predictably. Whether profiles are embedded or not, InDesign will always present you with options when needed. All other settings in this dialog can be set to fit your own workflow or as described below.

The following settings are commonly used in workflows complying with **ISO 12647-2**:



Please keep in mind, that the settings for Working Spaces and Conversion Options are used, when converting an image to the working space when opening the file and for translating color values in the Color Picker. When creating a new document, the working spaces will be assigned to the new document. So when choosing Working Spaces and Conversion Options, it's best to select the ones you use most frequent for your work.

To add **ISO Coated v2 (ECI)** or another working space profile to the list of available profiles, please add the ICC file to your profile folder, as described in **Where to place an ICC or ICM file** (page 9). The file (ISOcoated_v2_eci.icc) can be obtained from the ECI website, www.eci.org:

Description: http://eci.org/eci/en/041_offset.php
 Downloads: http://eci.org/eci/en/060_downloads.php
 Actual file: http://eci.org/eci/downloads/ECI-en/icc_profiles_from_eci/ECI_Offset_2007.zip

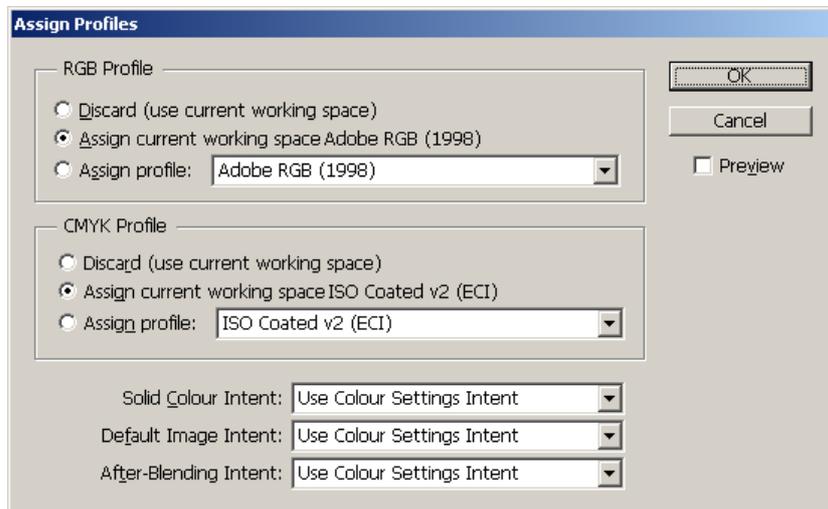
Note: Do not select your monitor profile as RGB working space.

2.2 About InDesign documents

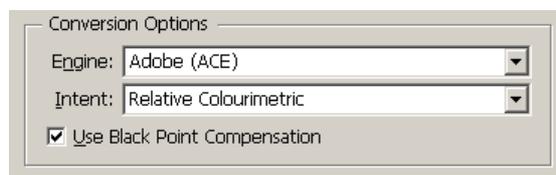
InDesign documents can contain three types of color data: LAB, CMYK and RGB. Every object, be it vector or pixel, has its own LAB, CMYK or RGB values. LAB values already represent a specific color, but CMYK and RGB values always need an ICC profile in order to characterize a specific color. That's why colormanaged InDesign documents always have two profiles assigned to them, one for RGB and one for CMYK.

To view a document on a monitor, print it on a printer or export it to a file, all color data needs to be converted to color values suitable for the device or file format. InDesign by default uses the profiles and conversion options selected in the main Color Settings dialog.

Individual documents can contain their own color settings by selecting them in the Assign Profiles dialog. Open this dialog for the currently active document by selecting **Edit > Assign Profiles...** from the menu. By default the dialog will show the following settings:



Indicating that the current **Working Spaces** and **Conversion Options** selected in **Colour Settings** are assigned to this document and will be used for all color conversions. In this case relative colorimetric will be used as rendering intent, as selected in **Color Settings in InDesign** (page 3):



The Assign Profiles dialog allows you to select custom color settings for your document. Use it to assign different profiles or to select different rendering intents. Most users will not need to change these settings. If you do make changes, please make sure these fit in with your workflow's requirements and job-specific conditions, while taking into regard any limitations of the devices and file formats involved. When you make changes in this dialog, enable **Preview** to see the changes on your screen.

Apart from assigning profiles you can specify custom rendering intents for the following content:

Solid Colour Intent for solid colored areas; vector objects with 100% opacity.

Default Image Intent for all placed images; pixels.

After-Blending Intent for transparent areas; all colors originating from blending multiple layers. **Note:** Transparencies are either CMYK (default) or RGB, which can be changed from the menu by choosing: **Edit > Transparency Blend Space**

The available options in brief:

Use Colour Settings Intent indicates no custom intent is selected; the Conversion Options in Color Settings are active.

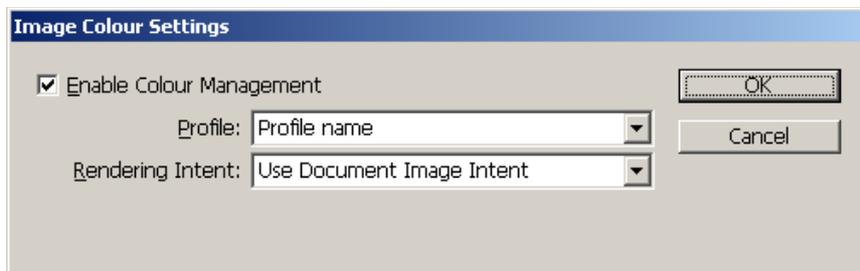
Perceptual is often used for photographic images. Colors will be converted proportionally into the destination space. This way relations between different colors are kept intact as much as possible.

Saturation will keep colors as saturated as possible and is mostly used for graphics that require vivid colors.

Relative Colourimetric will keep colors as consistent as possible, while correcting for any difference in white point between the source and destination space.

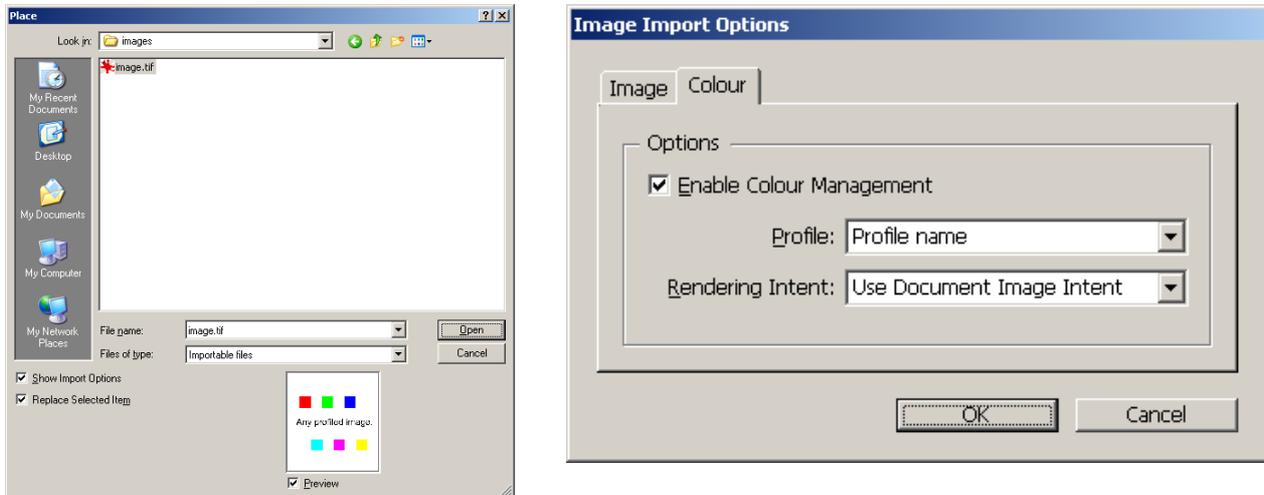
Absolute Colourimetric will keep colors as consistent as possible, not correcting for any difference in white point between source and destination.

Individual images can have their own profile and rendering intent assigned to them, by selecting them in the Image Color Settings dialog. Open the Image Color Settings dialog for the currently selected image by selecting **Object > Image Colour Settings...** from the menu, or **Graphics > Image Colour Settings...** from the context menu. By default the dialog will show the following settings:



Use this dialog to assign a different profile to the image or override the Default Image Intent selected in the Assign Profiles dialog.

These same settings can also be changed in the Import Image Options dialog when placing a file. Choose **File > Place...** from the menu and enable **Show Import Options** before choosing and importing the file:



Note: The appearance of these dialogs in InDesign may differ depending on the version used. Please do not disable **Enable Colour Management** in any case (version 3). When you place an image without an embedded profile, the active working space will be assigned to it. In this case that would mean RGB images will have Adobe RGB (1998) assigned to them.

2.3 About the printer

A printer profile is created for a certain printer plus printing materials, but also for the software used to drive the printer. This guide focuses on printing directly from an application to a printer using an installed printer driver. A printer driver can have numerous settings that influence how the printer produces color. Later on in this guide you will be prompted to select the correct settings. These settings should be the same as when the testchart was printed, from which the chosen ICC printer profile was created. Please focus on these two main issues, when selecting the printer settings:

1 - Disabling any form of automatic color correction.

This is mainly colormanagement and automatic image enhancement inside the printer driver. This needs to be disabled, because Adobe will manage colors. You'll find the settings among the settings/properties/preferences of your printer located with the paper type settings and/or on a separate tab called **Color**, **Color Options** or **Color Management**. All depends on your make and type of printer and the driver installed. The particular setting(s) may be called:

No Color Adjustment	<i>(on)</i>
Disable ICM	<i>(on)</i>
ICM	<i>(off)</i>
ColorSync	<i>(off)</i>
PhotoEnhance	<i>(off)</i>
Colorsmart	<i>(off)</i>

In some cases you have to enable options like **Colormanagement**, **Color Adjustment** or **ICM** to be able to choose **No Colormanagement**, **No Color Adjustment** or **Disable ICM**. Or you may be able to choose an option called **Managed by application** or **Application managed colors**. Please refer to the printer's manual or the internet to discover how to switch off colormanagement and/or automatic color adjustment for your printer.

2 - Choosing the right paper settings.

Select the paper type settings the profile was created for. The paper type settings control how the printer will dose it's colors. In some cases there are additional options to control this. For example color correction controls or ink volume control for overall ink usage or individual inks.

2.4 Where to place an ICC or ICM file

Before you can select a profile from any list of available profiles in Adobe applications, you have to copy or move the ICC or ICM file to the correct location on your system, using Finder™, Explorer or another filebrowser. In some cases, you may need to restart the application in order to see the profile in the list. Below you'll find the paths where ICC files can be placed. Midox Color recommends using the common profile folder for your operating system, marked with ←.

Path operating systems:

Mac OS X:	/Library/ColorSync/Profiles	←
or:	/System/Library/ColorSync/Profiles	
or:	/Users/your_username_here/Library/ColorSync/Profiles	
Mac OS 8 or 9:	System Folder > ColorSync Profiles	←
Windows XP:	C:\windows\system32\spool\drivers\color	←
Windows 2000:	C:\winnt\system32\spool\drivers\color	←
Windows NT:	C:\winnt\system32\color	←
Windows 95/98/ME:	C:\windows\system\color	←

Path Adobe applications:

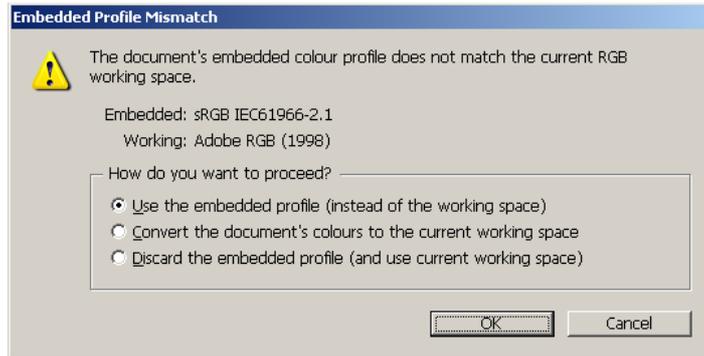
Windows:	C:\Program Files\Common Files\Adobe\Color\Profiles
or:	C:\Program Files\Common Files\Adobe\Color\Profiles\Recommended
Mac OS X:	/Library/Application Support/Adobe/Color/Profiles
or:	/Library/Application Support/Adobe/Color/Profiles/Recommended
Mac OS 8 or 9:	System Folder > Application Support > Adobe > Color > Profiles
or:	Sys... > Application Support > Adobe > Color > Profiles > Recommended

3. Printing with ICC printer profiles

3.1 Open a document

Open a document in InDesign. If the document has embedded profiles that match the current working spaces, there will be no color warning. Proceed with **Print** (page 12).

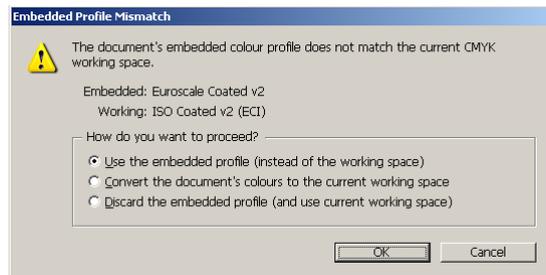
If the document has embedded profiles that do not match with the current working spaces, version 3 will give the following dialogs:



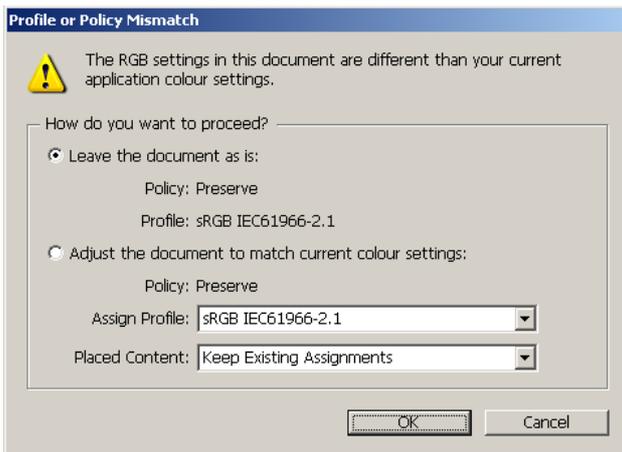
Here choose:

- **Use the embedded profile**

Click **OK** and repeat this for CMYK if necessary:



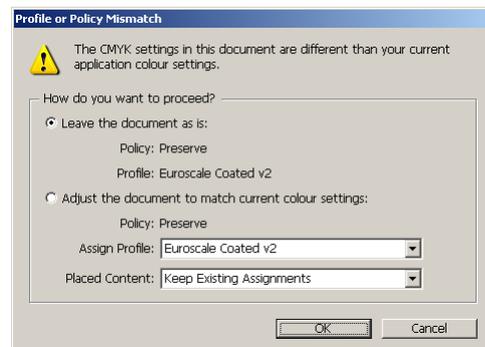
In version 4 the dialogs are different:



Here choose:

- **Leave the document as is**

Click **OK** and repeat this for CMYK if necessary:



If the document has no profiles embedded, InDesign will present warning dialogs, where the appropriate profiles can be assigned. Version 3:

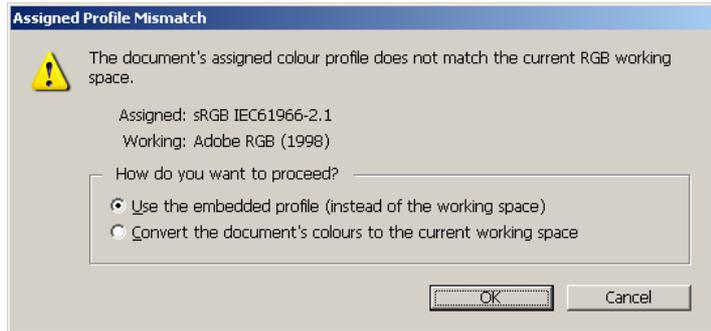
Assign the correct profile and click **OK**:



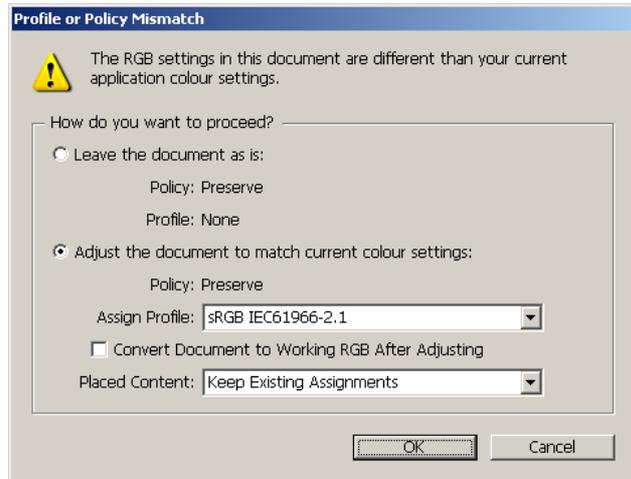
Then choose:

- **Use the embedded profile**

Click **OK** and repeat this for CMYK if necessary.



In version 4 the dialogs are different:



Here choose:

- **Adjust the document to match current colour settings**

Then assign the correct profile, click **OK** and repeat this for CMYK if necessary.

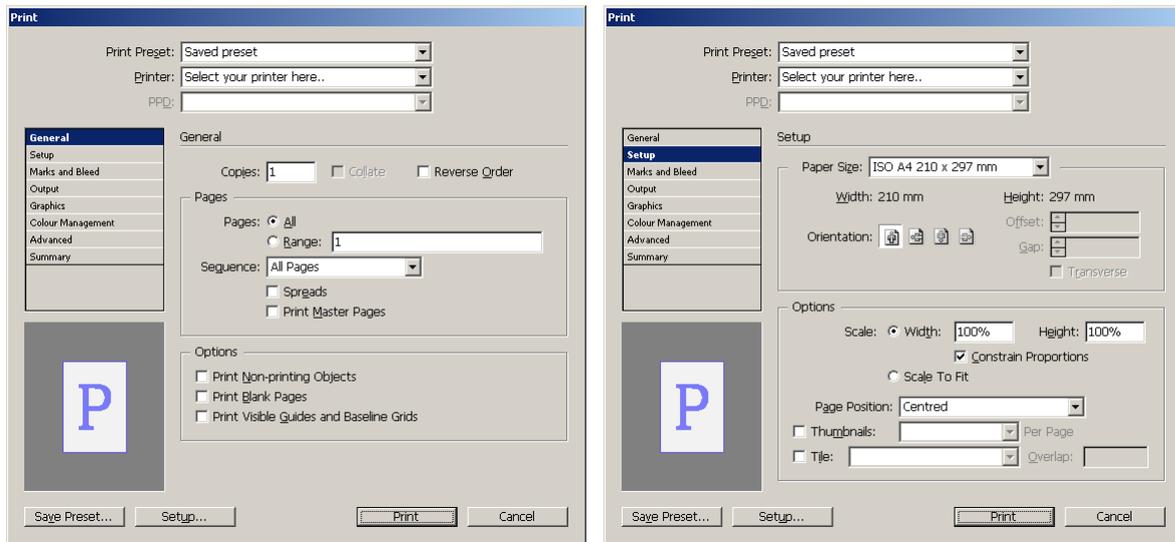
3.2 Print

In InDesign choose **File > Print...** from the menu or use the keyboard shortcut:

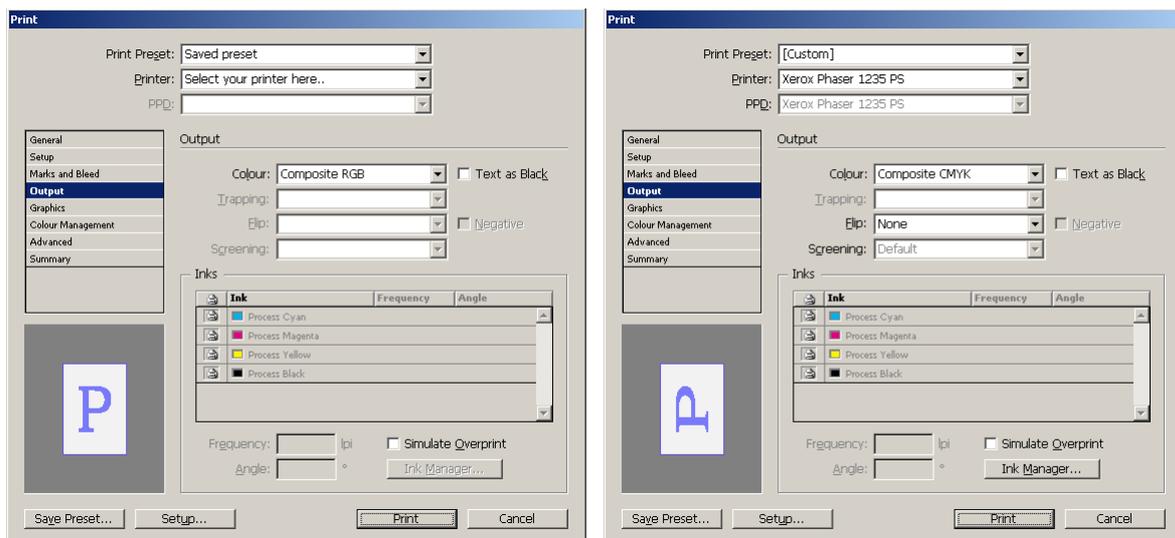
Ctrl + P (Windows)

Command ⌘ + P (Mac OS)

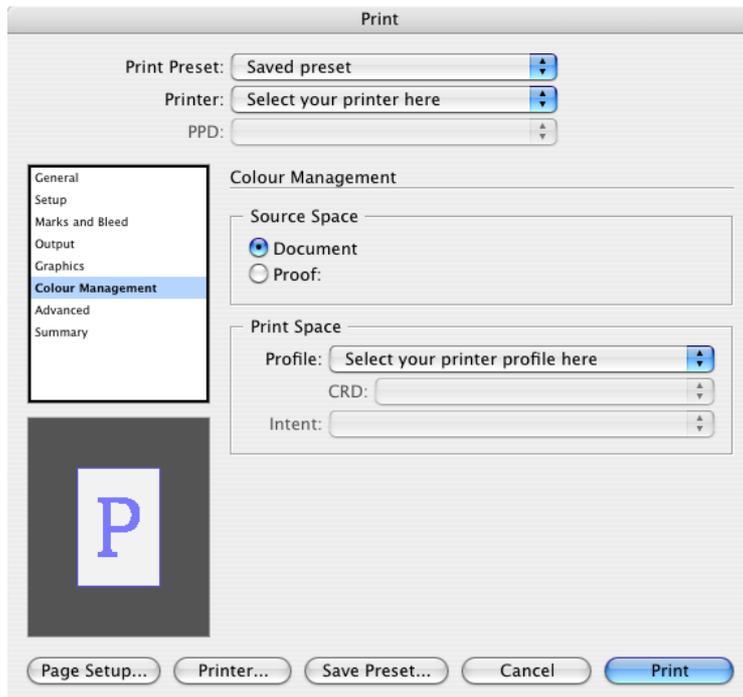
In the print dialog, please start with selecting the right **Printer** from the pull-down menu.



Then select settings for format, orientation and size for the current print job. Please leave the Output section set to Composite RGB, when you're using an RGB printer profile (or Composite CMYK, when using a CMYK printer profile).

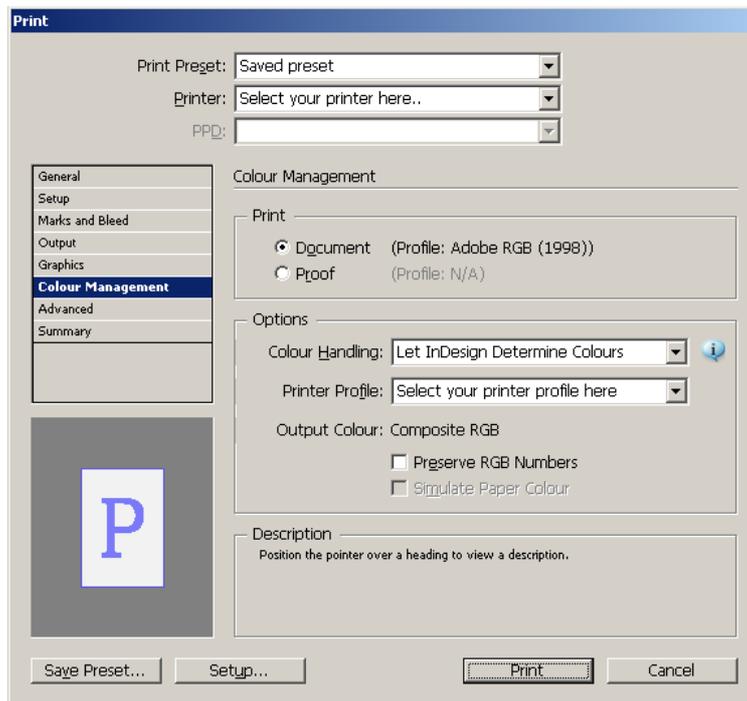


Select the **Colour Management** tab and select **your printer profile** from the pull-down menu:



Above: version 3 (CS)

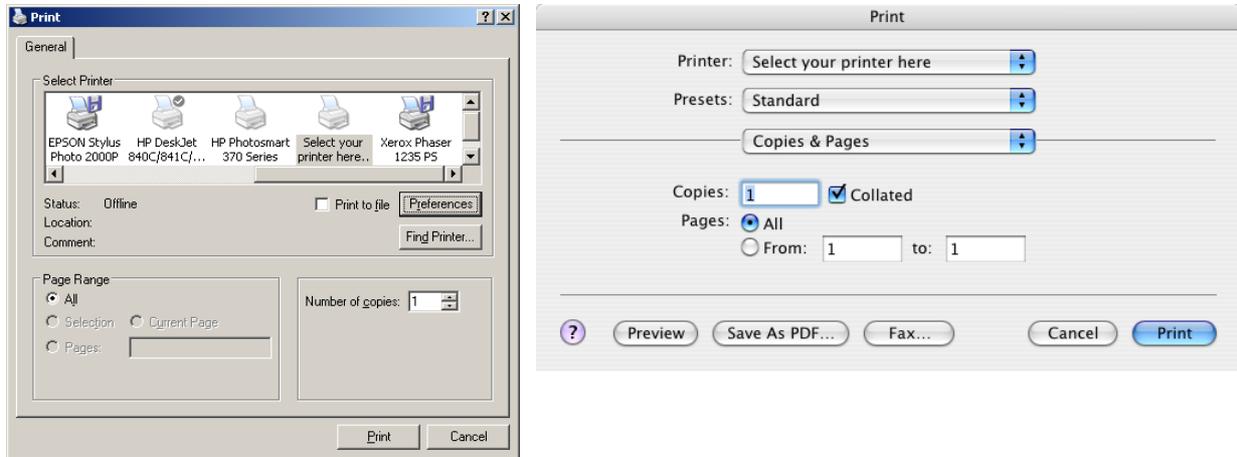
Below: version 4 (CS2)



Note: Please leave **Source Space / Print** set to **Document**. Version 4 only: leave **Colour Handling** set to **Let InDesign Determine Colours** and do not enable **Preserve Numbers** or **Simulate Paper Colour**.

Finally **Mac OS** users click on **Printer...** and enter the printer settings tabs from the bottom pull-down menu, which first reads **Copies & Pages**.

Windows users click on **Setup...** opening the Print setup window and click **Preferences** to open the settings dialog of the selected printer.



The appearance and available options of the following dialogs and tabs depend on your operating system and installed printer driver. Please select all color-related settings the chosen ICC printer profile was created for.

Load the settings you **saved or noted** when printing the testchart.

Did you have to adjust one or more settings for the current job, after loading saved settings; i.e. the paper format? Then please check all color-related settings. Changing some settings may cause default settings to become active.

If you don't know which settings were used, then please **disable** the printer's **colormanagement** and/or **automatic color correction** and choose paper type settings that best describe the materials you are using.

See also [About the printer](#) (page 8).

Mac OS: The ColorSync-tab can be left in its default setting, as ColorSync will not be used. On OS X, any printer's settings can be saved as a preset. The print dialog has a pull-down menu, where presets can be loaded or saved. If you load an existing preset and then change some of the settings for a particular job, then please save or save a new preset.

Windows: In the printer settings dialog, you may need to enter **Advanced...** to find all relevant settings. One set of custom printer settings can be saved by setting a printer's **Printing Preferences...** These will then become the default settings for that particular printer. Additional presets can only be saved when the printer driver offers this function.

Click **Print** to go back to the InDesign Print dialog and click **Print** to print the document.

4. Copyright

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Author: M.G. van Dijk

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Midox Color

Dirk Costerplein 184
2624 TX Delft

The Netherlands
Europe

www: www.midox.nl
e-mail: info@midox.nl
phone: +31 (0)70 71 10 353

bankaccount: 4226675
IBAN: NL88 PSTB 0004 2266 75
BIC: PSTBNL21

K.v.K.: 27275184 (Chamber of Commerce registration number)
VAT: NL145683928B01

