

## Gray Balance Control in Offset Printing with the ECI /bvdm Gray Control Strip



xxx Gray Control Strip (S) • yyy

## Guideline to create versions for custom printing condition

## Versions of the ECI/bvdm Gray Control Strip for custom printing conditions

For standard printing conditions ECI and bvdm offer pre-built control strips as a free download from both the [www.eci.org](http://www.eci.org) and [www.bvdm.org](http://www.bvdm.org) websites as PDF and EPS files.

Custom versions of the ECI/bvdm Gray Control Strip usually are only required in specific cases – e.g. for offset printing using special inks or for special printing processes. The following guide explains step by step, how custom versions of the ECI/bvdm Gray Control Strip can be created based on template documents, and how to make sure these custom control strips are identified adequately.

### Requirements

– Adobe InDesign CS

The template documents for the three layout versions „S“, „M“ and „L“ of the Gray Control Strip have been created using Adobe InDesign CS.

– Characterization data file

For determining the CIELAB values of the true gray patches „K 30“, „K 50“ and „K 70“ the characterization data file – for the printing condition for which the ECI/bvdm Gray Control Strip is to be created – is necessary.

– ICC Profile

In order to determine the CMY values for the chromatic gray patches a specific ICC profile is required, which has been built from the characterization data file with a special separation option black generation setting (“none”; no black ink).

### How to Determine the CIELAB Values of the true Gray Patches

Using a text editing application, open the characterization data file for which you wish to create a custom version of the ECI/bvdm Gray Control Strip. Typically characterization data files are saved as a simple text table using tab delimiters for the columns. Each line in this table contains the necessary information for one measurement patch. The columns in each line of the table contain the CMYK values for the respective patch as well as the measured CIELAB values. Search for the three true gray patches „K 30“, „K 50“ and „K 70“ and note the CIELAB values.

### How to Determine the CMY Values for the Chromatic Gray Patches

Convert the three CIELAB values noted in the previous step and convert them to CMYK – using as the destination profile the special ICC profile (no black ink) – with the absolute colorimetric rendering intent. It is possible to use Photoshop for this conversion (“Mode / Convert to Profile...”), or tools like GretagMachbeth ColorPicker or the color calculator which is

included in the Heidelberg Prinect Profile Toolbox. Please note, that the values for the chromatic gray patches must have a value of 0% for the black channel.

### Open the Template Document

Both for the base variant „S“ as well as for the extended variants „M“ and „L“ of the ECI/bvdm Gray Control Strip a template document is contained in the download package.

### Adjust CMY Values for the Chromatic Gray Patches

Open the color swatches palette and replace the color values in the patches “cmy 30”, “cmy 50” and “cmy 70” with the appropriate values as determined in the previous steps.

### Adjust Info Text

In order to unambiguously identify the custom control strip and clearly associate it with the correct printing condition the identification line just below the patches in the base variant „S“ – or to the right of the patches in the extended variants „M“ and „L“ needs to be adjusted accordingly. The identification line is extremely important – without it will be impossible to adequately evaluate the control strip as it cannot be known for which printing condition it had been created. The InDesign CS template documents contain a layer “Infotext” with this identification line on it. Replace the place holder text with your custom information:

- xxx: Party issuing the custom Gray Control Strip (e.g. company name).
- yyy: Identifier for the characterization data set.
- yyy.txt: File name of the characterization data set.
- zzz: Short description of the custom printing condition.

#### – www.yyy.com

URL where the characterization data file can be downloaded. The characterization data file contains the CIELAB aim values for the true gray patches. These values can be used for a measurement based evaluation of the gray balance.

#### – www.xxx.com

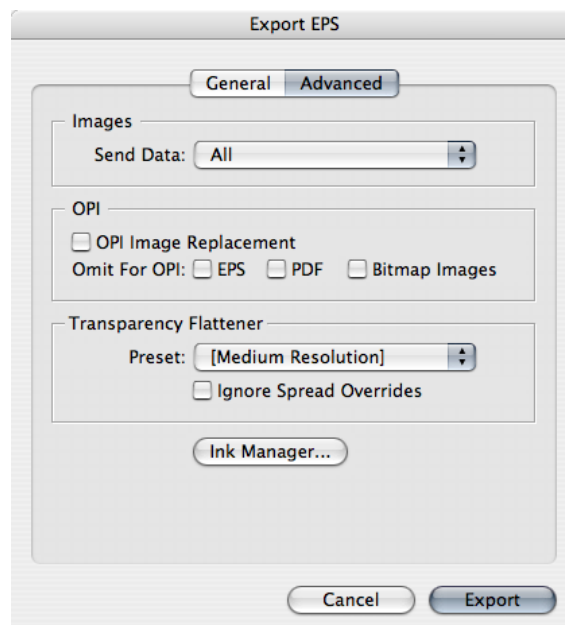
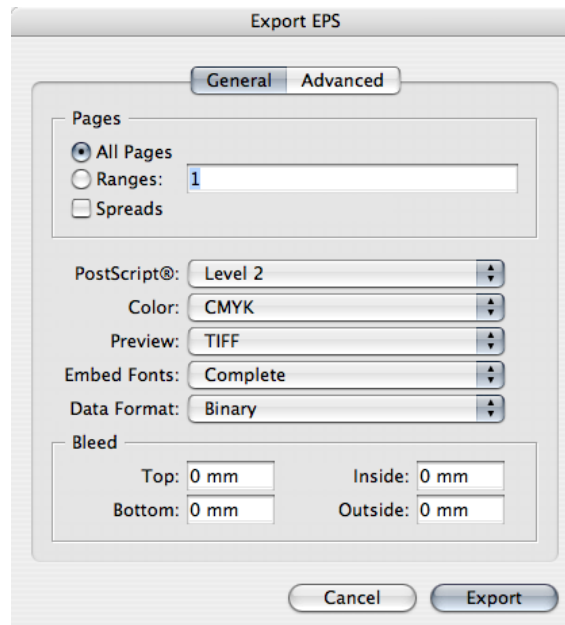
Internet address of the party having created or issuing the Gray Control Strip.

### Create PDF

A print ready PDF file of the custom Gray Control Strip can be created using “File / Export”. Choose “Adobe PDF” as the “Format” and “[Press]” as the PDF export setting.

### Create EPS

An EPS file of the custom Gray Control Strip can be created using “File / Export”. Choose “EPS” as the “Format” and use the export settings as shown below:



## 5 Imprint



### Publisher:

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## 6 Contributors

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