Generating a DeviceLink profile

When generating a DeviceLink for a given output device type, such as an offset press or an ink jet proofer, ColorFlow provides a default DeviceLink method and other settings for transforming CMYK color values, which are tailored to the device type and device condition. It's recommended that you start by generating a DeviceLink with the default methods and examine the color output; If the result isn't ideal, redefine the DeviceLink to select a different method and exam the color output again; Then, if you want to produce a closer color alignment, adjust the DeviceLink.

Requirements: You must do a full color characterization in order to generate a DeviceLink profile.

1. From the DeviceLink Method list, select a desired generation method (depending on the device type, some options may be unavailable):
   - **Ink Optimizing Solution**: Applies a high level of Gray Component Replacement (GCR) to optimize ink usage, by replacing the neutral component of combined cyan, magenta, and yellow tints with black. This method is available if your license includes the Ink Optimizing Solution feature
   - **Full Reseparation:** Generates CMYK separations to reproduce the color of CMYK inputs, without regard to their relative amount of Black vs CMY. Solid colors in the original file may not remain solid. The black generation parameters that you specify are used, which may result in using less chromatic ink and more black ink, or vice versa, for a given CMYK input
   - **CMYK Integrity:** All color builds can be adjusted. The relative amount of black vs CMY is preserved in content processed through the DeviceLink
   - **Black Purity Only:** Any colors other than black channel (solid K, K-grays) can be adjusted. K-only colors may change the K value, but will not add other colors
   - **Color and Black Purity:** Same as Fully Constrained but solid colors can be reduced to a tint
   - **Fully Constrained:** The DeviceLink is constrained so that any color made with only one or two inks will not have other inks added. Solid (100% tints) primaries and secondaries are not affected and remain solid
   - **Profile Pair Linking**: The DeviceLink is generated by direct evaluation of source and destination profile tags, providing the same black generation as the destination profile. The method applies to RGB and CMYK color inputs, and non-curved SCOs
   - **Custom Separation**: Select this option if you want to control the separation properties
2. In the Rendering Intent list, choose the gamut mapping that should be used when mapping colors from one color gamut to another:
   The following table describes each rendering intent and their applications:

Rendering intent	Where to use for	Description
Perceptual	Photographs (scans and images)	Fits all colors in the source space into the destination space while preserving overall color relationships. This method is suitable for images that contain significant out-of-gamut colors (RGB to CMYK)
Saturation	Business graphics (charts and solid colors)	Converts saturated colors in the source to saturated colors in the destination. This method may not be suitable for preserving original colors in an image
Relative Colorimetric	Proof output where the destination gamut is larger than source gamut	Maps white in the source to white in the destination, reproducing all in-gamut colors and clipping out-of-gamut colors to the closest reproducible hue. This method preserves more of the original colors than the **Perceptual** method

Absolute Colorimetric	Proof output where the media white color of the source needs to be reproduced on the destination media	Maintains color accuracy and does not change any colors that fall inside the destination color gamut (including white)

3. Depending on the DeviceLink Method you selected, the available options are displayed:
   - **Total Ink Limit**: Specify the maximum sum of tint values of all the inks
   - **Black Start**: Specify the start point on the neutral axis for black ink. For example, if you set the start point value to 20%, tones less than 20% will print with CMY inks only
   - **Max Black**: Specify the maximum allowable percentage of black ink used in the black separation
   - **Black Strength**: Use the slider or the text box to specify the relative quantity of black vs cyan, magenta, and yellow used to generate the neutral gray component of colors. As you move the slider towards the maximum value, colors can contain more black
   - For **Perceptual** rendering intent, you can adjust the way the source gamut is mapped to the destination gamut by entering the desired value in the **Brightness Boost** and **Contrast Boost** boxes. It's recommended that you generate the profile with default settings, and then adjust the **Brightness Boost** and **Contrast Boost** settings if the visual appearance of separated images is not pleasing
4. For the **Full Reseparation** DeviceLink method with **Relative Colorimetric** rendering intent, to perform perceptual-like gamut mapping of the lightness scale, select the **Black Point Compensation** check box.
5. For the **Ink Optimizing Solution** DeviceLink method, to achieve a closer color match to your source color space while achieving ink savings (not applicable to color inputs and non-curved outputs), select the **Target Simulation** or **Color Space Conversion** check box (depends on whether you are in the PCO or SCO). For curve-controlled devices, selecting this option allows gamut mapping to occur between two different color spaces.Otherwise, ink usage is optimized but colors are not visibly converted.
6. To maintain 100% black and zero output for zero input tint values, select the **Maintain Rich Black Purity** check box. For example, for a CMYK (50, 30, 0, 100) input tint, selecting **Maintain Rich Black Purity** allows you to retain 100% black and 0% yellow output tint values.
7. Click **OK**.