

Increasing your ink savings

Ink savings can first be maximized with the following settings in the Ink Optimizing Solution DeviceLink Definition:

1. Set **Black Start** to 0. This ensures that Black ink will be used instead of CMY to produce the gray component of colors.
2. Set **Max Black** to 100. This ensures that as much Black as possible can be used.
3. Set **Black Strength** to 100. This ensures that the Black ink will replace CMY ink to the maximum extent possible. Ideally, Black should be increased, replacing CMY, until at least one of Cyan, Magenta and Yellow approaches zero, or Black approaches 100%. Ink Optimizing Solution improvements in ColorFlow 11.0.2 maximize this effect.

For further ink savings, use the **Limit Dark Point Total Ink** feature. This reduces ink consumption by slightly lightening dark colors, while preserving detail.

1. Select **Limit Dark Point Total Ink to:**
2. Reduce the associated Total Ink value. Lower values will increase ink savings, at the expense of less output dynamic range.

Kodak recommends an initial value of about two-thirds the value in the **Total Ink Limit:** field. You can assess the ink savings, as described in [Verifying your ink savings](#), and gauge the effect on image quality by comparing refined or output PDF files in a PDF viewer.

Example: Ink Optimizing Solution DeviceLinks for reseparating FOGRA 40 content.

1. FOGRA 40 ICC device profiles have a typical Total Ink Limit of 270. To maintain the chroma extent of images, set the Ink Optimizing DeviceLink **Total Ink Limit** to 270.
2. Select **Rendering Intent:** Perceptual to ensure highest quality image rendering.
3. Set **Black Start** to 0, **Max Black** to 100 and **Black Strength** to 100 as above.
4. Select **Limit Dark Point Total Ink to:** and enter Total Ink value 180 (two-thirds of 270).
5. Click **OK**.

Ink savings are analysed using the test form shown below, separated with a FOGRA 40 device profile and then reseparated with each of two Ink Optimizing Solution DeviceLinks, the last one using **Limit Dark Point Total Ink** feature.



Test Case	Total Ink Limit	Dark Point Total Ink Limit	Dark Point L*	Substrate L*	Average CMYK	Average Total
Original FOGRA 40 Separation	270	270	15	89	27, 30, 34, 18	10'
Ink Op Reseparation	270	270	15	89	14, 19, 23, 28	84
Ink Op Reseparation with Dark Point Total Ink Limit	270	180	18.5	89	13, 18, 22, 28	81

The first Ink Op DeviceLink reduces ink consumption by 23%; the second reduces it by 26%. Note that half of the images in this test form are highly chromatic, limiting the opportunity to replace CMY inks with Black. Less chromatic content will yield lower total ink and higher ink savings.