

Creating a print transfer curve

1. In the **Print Curves** tab, under **Transfer Curves**, click the **Add** button .
2. (Optional) Enter a name for your curve.
Otherwise, ColorFlow will generate a default name according to the selections below.
3. In the Device Condition panel, select the device condition settings you want to use for this curve.
 - You can create new Screening, Substrate or Other parameters to uniquely identify your Device Condition. If you use the default name for your curve, these parameters will be identified in the name. Otherwise, you can name your Curve whatever you want.
 - To make the curve visible in Prinergy, select the **Show in Prinergy** check box.
 - Note that choosing **Device Type: Flexographic Press** allows you set a specific minimum **Tint Out** value for a curve, which is often required for flexo plates which have a limited ability to image very small highlight dots. Setting a minimum highlight **Tint Out** or **Mindot Bump** for a Flexographic Press ensures that all highlight dots develop on plate and print on press.
4. In the Curve Channels panel:

For Process Inks	To use the same transfer curve for all CMYK process inks, select One channel for CMYK .
	To use the same transfer curve for all inks of an extended process ink set, select One channel for CMYK+ . This provides the same transfer curve for CMYK and Red, Orange, Green, Blue, Purple and Violet inks, if present in your ink set.
	To use a separate transfer curve channel for each CMYK process ink, select Separate channels for CMYK .
	To use a separate transfer curve channel for each ink of an extended process ink set, choose the selection that contains your extended process ink set, for example, Separate Channels for CMYKOGV if your process inks are C, M, Y, K, O G and V in any sequence. If a selection for your ink set does not appear: a. Click the Edit button . b. Enable the selection that contains your extended process ink set. c. Click OK.
In the Spot Inks table	Select the Default curve channel to use for undeclared spot inks.
	Add any spot inks for which you want custom curve channels. See Adding a spot ink to a print transfer curve if applicable.

5. In the Curve Definition panel, select the curve channel you wish to define and perform the appropriate action:

- If **Process Inks: Separate channels for CMYK** is selected, select any process ink channel by clicking **C** , **M** , **Y** , or **K** . Individual channel buttons are available only if **Separate channels for CMYK...** is selected under **Curve Channels**. Separate channels for extended process inks can also be selected and defined.
 - If **Process Inks: One channel for CMYK** or **One channel for CMYK+** is selected, select the common process ink channel by clicking **CMYK** or **CMYK+**.
 - To select any spot ink channel, click **Spot** and select the spot ink in the **Spot ink:** selector.
6. To create a Transfer Curve, you can use one of the following methods: **Tint In /Out Points**, **Custom Shape**, or **Imported**.

To create a Transfer Curve from a set of input and output values	Select Curve Origin: Tint In/Out Points (default selection) and enter the desired Tint Out value for each corresponding Tint In value. • You can use the default Tint In/Out Points, or you can press the Tint Set button and press the + button to create a new Tint Set with a desired set of Values. ColorFlow will automatically add "0" and "100" to any set you create. • You can also copy a list of numbers from a spreadsheet or text document. After copying the numbers, double-click the first non-zero Tint Out value to activate entry mode and then paste to populate all the following Tint Out values.
To create a Transfer Curve using a Custom Shape	a. In the Channel Selector section, click a desired color channel button (C , M, Y, K, etc.), or CMYK or CMYK+ if all colors should have the same values. b. Select Curve Origin: Custom Shape and enter a value to adjust the Midtone (50%) output value. Adjust the Midtone Curve Tilt to change the shape of the curve. You can press the View and Apply buttons to view the curve and see how it is affected by changes to the Midtone Curve Tilt. Positive values will cut back the highlights and boost the shadows, and minus values will have the opposite effect. To create Transfer Curves for Flexo Press Device Types: When you select Device Type: Flexographic Press an additional curve creation method-- Curve Origin: Flexcel NX Preset --becomes active. This allows you to create custom flexo adjustment curves that have been optimized for use with Miraclon Flexcel NX plates. Use the arrows to adjust the amount of Midtone Tone Value Increase measured with a test print from a Flexcel NX plate. The resulting curve will compensate for the entered amount of Midtone gain. To create MinDot Bump or Cutoff curves in conjunction with any Curve Origin method: a. Select the desired Curve Origin . b. Enter the desired parameters in the MinDot Bump / Cutoff panel: • To create a Bump Curve, enter 0.39 in the Tint In box and enter the minimum printable dot value in the Minimum Tint Out box.

	- To create a Cutoff Curve, enter the minimum printable dot value in both the Tint In and Minimum Tint Out boxes. c. To convert the Tint In value you entered to a tint percentage value that corresponds to an 8-bit value between 0 and 255, select the Snap Tint In to 8-bit values check box. For example, if you enter 0.5%, the value snaps to 0.39%, which corresponds to system value 1. To preserve the Tint In value as entered, such as 1.00%, clear the Snap Tint In to 8-bit values check box. d. To adjust the transition from the Mindot to the defined curve, adjust the Highlight Contrast slider or enter a value in the box. For most cases, the default value of 70% is acceptable. Reducing Highlight Contrast produces a curve that is flatter near the Mindot, meeting the defined curve at a lower point but reducing contrast in this region. Increasing Highlight Contrast produces a curve that preserves highlight contrast, but meets the defined curve at a higher point.
To use existing curve data from Harmony	Click Curve Origin: Imported and click Imported to import the file. In ColorFlow 8.4 and later, to facilitate the migration of Harmony curves to ColorFlow, you can convert a Harmony OneCurve curve to a print transfer curve with Curve Channels: Process Inks value One channel for CMYK selected, so that you can continue to work with a single curve channel in ColorFlow.

- a. In the **Channel Selector** section, click **All**.
 - b. Click **Flexcel NX Preset**.
 - c. In the **Midtone Tone Value Increase** box, enter the cyan midtone (50% input tint) **TVI**.
 - d. Define the **Process Inks (CMYK)** and **Spot Inks** Mindot:
 - To use bump curves, enter 0.39 in the **Tint In** box and enter minimum printable dot value in the **Minimum Tint Out** box.
 - To use cutoff curves, enter the minimum printable dot value in both the **Tint In** and **Minimum Tint Out** boxes.
 - e. Do the following:
 - To convert the **Tint In** value you entered to a tint percentage value that corresponds to an 8-bit value between 0 and 255, select the **Snap Tint In to 8-bit values** check box. For example, if you enter 0.5%, the value snaps to 0.39%, which corresponds to system value 1.
 - To preserve the **Tint In** value as entered, such as 1.00%, clear the **Snap Tint In to 8-bit values** check box.
 - f. To adjust the transition from the Mindot to the defined curve, adjust the **Highlight Contrast** slider or enter a value in the box. For most cases, the default value of 70% is acceptable.
 - Reducing Highlight Contrast produces a curve that is flatter near the Mindot, meeting the defined curve at a lower point but reducing contrast in this region.
 - Increasing Highlight Contrast produces a curve that preserves highlight contrast, but meets the defined curve at a higher point.
 - g. You can click **View Curves** to display the curve graph while you editing the tint change or tilt value.
 - h. Click **OK**.

7. Click **OK**.