

Flexographic press device curves

Device curves define bump or cutoff curves for each device in a flexographic press device condition.

The point at which the discontinuous curve steps from zero to the minimum printable dot is called the **Mindot** of the curve. The Mindot has a **Tint In** value that specifies the input tint value where you want the discontinuity to occur, and a **Minimum Tint Out** value that you set to the minimum printable dot.

It is common to print spot inks with operating conditions that are different from those used for process inks. For example, different screening systems (AM versus hybrid) or anilox roller conditions can be applied. This may result in different minimum printable dot values for spot inks versus process inks. To accommodate these differences, ColorFlow software provides two separate Mindot definitions: one for process inks and another for spot inks. This capability lets you use bump curves for process inks and cutoff curves for spot inks.

You define device curve **Mindot** settings in the Default Device Curves Definition dialog box for a flexographic press device condition.

Default Device Curves Definition

Curve Origin

☒ Preset Linear

☐ Imported

Use predefined curve:

Linear curves.

Mindot Bump / Cutoff

Process Inks (CMYK)		Spot Inks	
Tint In	Minimum Tint Out	Tint In	Minimum Tint Out
0.39	0.39	0.39	0.39

☒ Snap Tint In to 8-bit values

☐ Allow Tint Out Increase

Highlight Contrast: 70 %

(slider)

Each device that you add to the device condition will inherit the default device curves and their Mindot settings for its device curves. The Mindot **Tint In** and **Minimum Tint Out** values define only the discontinuity of flexo bump or cutoff curves. Above the Mindot, the shape of the curve is defined by preset or imported curves, using the same controls as for other curved device types. You can view the device curve **Mindot** settings for any device in the Device Curves Definition dialog box.

- **Highlight Contrast** control
- **Allow Tint Out increase to improve color match control** option

Highlight Contrast control

When you define bump or cutoff curves, the Mindot definition you provide will probably not coincide with the preset or imported curves that you choose. For example, you may want to use **Linear** curves with a Mindot that bumps 0.39% to 7.0% for LAMS plates. The Mindot lies above the linear curve.

The **Highlight Contrast** control determines how the curve tapers from the Mindot point to the preset or imported curve. With a low **Highlight Contrast** value, the curve converges quickly to the selected curve. This flattens the curve in the highlight region, and sacrifices highlight contrast. Increasing the **Highlight Contrast** value improves contrast in this tonal region, but extends the darkening effect of the Mindot bump further up on the tonal range.

Allow Tint Out increase to improve color match control

The **Allow Tint Out increase to improve color match** option controls whether ColorFlow software increases the Mindot **Tint Out** value of a device curve when it calculates device curves for non-promoted devices. It also has a similar effect on simulation and conversion curve calculation.

With some flexographic press device conditions, the minimum printable dot is small enough that it is not necessary to use a bump or cutoff curve. Nevertheless, this type of device condition may have a large enough highlight gain that its color response is discontinuous. In this situation, you would use the default Mindot settings to ensure that ColorFlow software accurately models the discontinuous color response. If the discontinuity of the color response is negligible for process and/or spot inks, set the corresponding Mindot **Tint In** values to zero. This eliminates the Mindot and indicates to ColorFlow software that the device condition color response is continuous, giving it the same capabilities as other types of curve-controlled device conditions.