How ColorFlow software calculates device curves for flexo devices

When you characterize the response of a non-promoted device in a flexographic press device condition, ColorFlow software calculates device curves to align the device response to the promoted device response—just as it does for other curved device types. When performing this calculation for a flexo device with bump or cutoff curves, ColorFlow software uses the device curve Mindot settings to ensure that scum dots are not generated.

For example, consider a non-promoted device that has a darker response in the highlight region than the promoted device. ColorFlow software will not reduce the Mindot **Tint Out** value of the curves in an attempt to match the lighter promoted device response. Instead, the response of the non-promoted device will remain darker in the highlight region. Further up the tonal scale, the calculated device curves align the non-promoted device response to the promoted device response. The **Highlight Contrast** control determines how the curves taper from their Mindot points to the curves that provide exact alignment.

- Aligning highlight response
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Aligning highlight response

If the non-promoted device has a lighter response in the highlight region than the promoted device, ColorFlow software can increase the Mindot **Tint Out** value of the calculated curves to match the darker promoted device across the entire tonal range. Alternatively, it can leave the Mindot **Tint Out** value unchanged, leaving the non-promoted device response lighter in the highlight region.

In this situation the **Allow Tint Out increase to improve color match** control determines the behavior of ColorFlow software. If you select the **Allow Tint Out increase to improve color match** check box, ColorFlow software increases the Mindot **Tint Out** value of each curve to match the promoted device response across the entire tonal range. If you clear the **Allow Tint Out increase to improve color match** check box, ColorFlow software does not change the Mindot **Tint Out** values of the curves. It tapers the curves from their Mindot to the shapes required for exact alignment, according to the **Highlight Contrast** control.

CMY highlight cast alignment

For all curved device types, ColorFlow software calculates non-promoted device process ink curves using the Gray Balance method, provided both devices have colorimetric response information. When performing this operation for bump or cutoff device curves, ColorFlow software can calculate CMY curves that correct the cast of the non-promoted device highlight response to match the gray balance of the promoted device. The correction includes the Mindot response.The **Allow Tint Out increase to improve color match** control determines if this cast correction is performed. If you clear the control, Mindot **Tint Out** values are unaffected and the highlight cast is not corrected.

If you select **Allow Tint Out increase to improve color match**, ColorFlow software performs this cast correction if the non-promoted device response is darker or lighter than the promoted device response in the highlight region. If the non-promoted response is lighter, ColorFlow software increases the Mindot **Tint Out** value of cyan, magenta, and yellow curves to exactly align the cast and lightness of the non-promoted device to the promoted response. If the non-promoted response is darker, ColorFlow software increases the Mindot **Tint Out** value of one or two of the cyan, magenta, and yellow curves to exactly align only the cast of the non-promoted device to the promoted response.

The non-promoted response will remain darker in the highlight region. The **Highlight Contrast** control determines the tint values at which the lightness of the non-promoted response also matches that of the promoted response.