Discontinuous PCO Simulation Curve generation

If the simulation target is discontinuous and the PCO uses a continuous, curve-controlled device condition, ColorFlow software calculates Gray Balance or Tonal Match simulation curves to exactly align the PCO color response to the target response across the entire tonal scale.

Aligning highlight response

When ColorFlow software calculates Tonal Match or Gray Balance simulation curves for a discontinuous device condition, it is likely that the device condition's color response in the highlight region is darker than the target response, unless the target is also discontinuous. The device condition response cannot be aligned to the target response in this region, because the device condition cannot print lighter than its Mindot response. In this case, simulation curves have no effect at the Mindot—**Tint Out** equals **Tint In**.

Further up the tonal scale, the calculated simulation curves align the PCO device condition response to the target response. The **Highlight Contrast** control of the PCO device condition determines how the curves taper from their Mindot points to the curves that provide exact alignment. If the PCO target and device condition are discontinuous, the possibility of alignment in the highlight region is determined by the relative darkness of the target and device condition Mindot responses.

- If the target Mindot response is darker than that of the device condition, ColorFlow software can generate simulation curves that increase the Mindot **Tint Out** for the device condition, providing exact alignment across the entire tonal range.
- Alternatively, it can generate simulation curves that have no effect at the Mindot, leaving the PCO response lighter that the target in the highlight region. The **Allow Tint Out increase to improve color match** control of the PCO device condition determines the behavior of ColorFlow software in this situation.
    - If you select the **Allow Tint Out increase to improve color match** check box, ColorFlow software increases the Mindot **Tint Out** value of each simulation curve to match the target response across the entire tonal range.
    - If you clear the **Allow Tint Out increase to improve color match** check box, ColorFlow software will not affect the Mindot of the curves. It tapers the curves from the Mindot to the shapes required for exact alignment, according to the **Highlight Contrast** control of the PCO device condition.

CMY highlight cast alignment

When ColorFlow software generates Gray Balance simulation curves for a discontinuous PCO device condition, it can calculate CMY curves that correct the cast of the device condition highlight response to match the gray balance of the target. The correction includes the Mindot response. The **Allow Tint Out increase to improve color match** control of the PCO device condition determines whether or not this cast correction is performed.

- If you clear the control, calculated simulation curves have no effect at the Mindot, and the highlight cast is not corrected.
- If you select **Allow Tint Out increase to improve color match**, ColorFlow software performs this cast correction when the PCO device condition response is darker or lighter than the target response in the highlight region.
    - If the device condition response is lighter, ColorFlow software increases the Mindot **Tint Out** value of cyan, magenta and yellow simulation curves to exactly align the cast and lightness of the PCO to the target.
    - If the device condition response is darker, ColorFlow software increases the Mindot **Tint Out** value of one or two of the cyan, magenta and yellow simulation curves to exactly align only the cast of the PCO to the target. The PCO response will remain darker in the highlight region.

The **Highlight Contrast** control of the PCO device condition determines the tint values at which the lightness of the PCO also matches that of the target.