Choosing a measurement chart

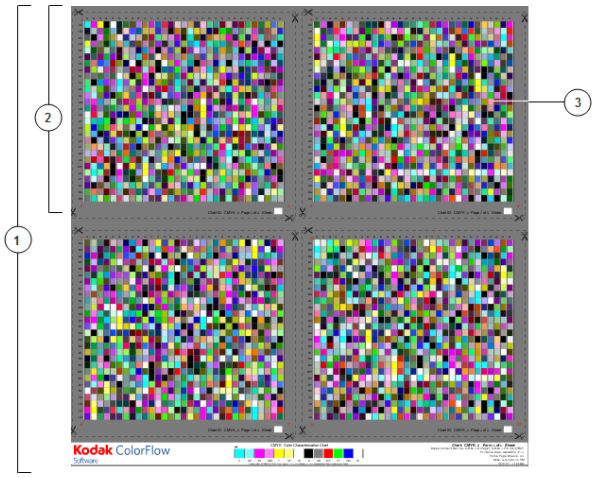
ColorFlow lets you create custom charts to suit your print device geometry. It also provides a number of built-in charts, including those commonly used in the print community.

ColorFlow supports the following types of custom measurement charts (with generated response types):

- **Tint Ramp** (Tonal only)
- **Tonal only** (Tonal only)
- **Full Color and Tonal** custom charts

A measurement chart contains all color patches required to determine the color, gray balance, or tonal response of a printing device. It includes all necessary identification and branding information that can be printed on either a single chart form or multiple chart forms, depending on the chart type and your printing device. A chart form contains one or several measurement pages. A measurement page is the portion of a chart form that can be measured by a color measurement device. It contains a footer and color patches that are a few millimeters in width. The total number of patches in a chart form, depends on the intent of the characterization (tonal, gray balance or full-color response) and the number of process inks that are used. A full-color characterization chart for a CMYK ink set requires about 1600 patches spread over multiple measurement pages, whereas a tonal characterization chart for the same inkset requires only a small single-page tint ramp chart, potentially consisting of as few as five patches. The maximum size of a measurement page is limited by the measurement device and the uninterrupted printable area on the print device.

The following shows an example full-color characterization chart that consists of four measurement pages in a single chart form:



1. Chart form
2. Measurement page
3. Patch

In addition to custom charts, ColorFlow supports a variety of built-in charts for tonal, gray balance, full CMYK color, and extended process characterization.

If you only want to generate print calibration curves, you can:

- Create a Tint Ramp chart to produce localized tonal response, for generating Tonal match curves
- Create a Tonal only chart to produce sheet-wide tonal response of your print device, for generating Tonal match curves
- Measure a built-in P2P25 or P2P51 chart which produces both tonal and gray balance response, for generating Gray Balance or Tonal Match curves

If you want to do a full-color characterization in order to generate a device profile or DeviceLink (only available in ColorFlow Pro Workflow edition), measure a Full Color and Tonal chart.

When you launch measurement for device characterization or output verification, ColorFlow displays only those charts with the same process ink set as the output you are measuring.

Charts for G7 support

ColorFlow clients have the following built-in custom and industry-standard charts for G7 support, each of which can be exported as a PDF file. Activation of any of these measurements produces a **Gray Balance and Tonal** response for CMYK process inks, and measurements can be exported. Each chart name indicates the devices that can measure the chart:

- ColorFlow P2P51 CMYK - i1iO or i1Pro
- ColorFlow P2P51 CMYK - i1iSis or Myiro-9
- P2P51 - i1iO or i1Pro
- P2P51 i1iSis
- P2P51 iSis mini

ColorFlow clients have the following built-in industry-standard charts for G7 support, each of which can be exported as a PDF file. Activation of any of these measurements produces a **Full Color and Tonal** response for CMYK process inks, and measurements can be exported. Each chart name indicates the devices that can measure the chart:

- TC1617x (i1iO) cf
- TC1617x_H (i1iSis) cf
- TC1617x_V (i1iSis) cf

ColorFlow clients have the following built-in custom charts for G7 support. Activation of any of these measurements produces a **Full Color and Tonal** response for CMYK process inks, and measurements can be exported. Each chart name indicates the devices that can measure the chart:

- CMYK Compact i1iO
- CMYK Compact - i1iSis or Myiro-9
    - compact charts for small-format print devices
- CMYK 206x430 - i1iSis or Myiro-9
- CMYK 212x418 - i1iSis or Myiro-9
    - similar to TC1617x variants, but optimized for reliable measurement by the i1iSis and Myiro-9

All of the above charts support G7 and targeted Gray Balance or Tonal Match calibration curves for CMYK printing. In a report generated by any of these measurements, CIELAB measurements reported for the device or verified output are same values that appear in exported measurements. All of the above charts for G7 support include the P2P Rows D and E tint values required for G7 Grayscale Compliance reporting.

Charts for Extended Process printing

ColorFlow clients have the following built-in custom charts for 5C, 6C and 7C extended process printing support. These charts support G7 and targeted Gray Balance or Tonal Match calibration curves for CMYK, and SCTV calibration for extended process inks. P2P Rows D and E tint values are not included, so G7 Grayscale Compliance reporting uses interpolated values. Activation of any of these measurements produces a **Full Color and Tonal** response for the selected extended process ink in set, and measurements can be exported:

- KSS Compact charts for i1iO
  - 5C: CMYKR, CMYKO, CMYKG, CMYKB, CMYKP, CMYKV
  - 6C: CMYKRG, CMYKOG, CMYKRB, CMYKOB, CMYKRP, CMYKOP, CMYKRV, CMYKOV, CMYKGB, CMYKGP, CMYKGV
  - 7C: CMYKRGB, CMYKOGB, CMYKRGP, CMYKOGP, CMYKRGV, CMYKOGV

Charts for Extended Process printing calibration with G7 support

ColorFlow clients have the following built-in custom charts for 5C, 6C and 7C extended process printing support. These charts support G7 and targeted Gray Balance or Tonal Match calibration curves for CMYK, and SCTV calibration for extended process inks. They also include the P2P Rows D and E tint values required for G7 Grayscale Compliance reporting. Activation of any of these measurements produces a **Gray Balance and Tonal** response for the selected extended process ink in set, and measurements can be exported:

- 5C charts for CMYKR, CMYKO, CMYKG, CMYKB, CMYKP, CMYKV extended process printing:
  - ColorFlow P2P51 CMYK5 - i1iO or i1Pro
  - ColorFlow P2P51 CMYK5 - i1iSis or Myiro-9
- 6C charts for CMYKRG, CMYKOG, CMYKRB, CMYKOB, CMYKRP, CMYKOP, CMYKRV, CMYKOV, CMYKGB, CMYKGP, CMYKGV extended process printing:
  - ColorFlow P2P51 CMYK56 - i1iO or i1Pro
  - ColorFlow P2P51 CMYK56 - i1iSis or Myiro-9
- 7C charts for CMYKRGB, CMYKOGB, CMYKRGP, CMYKOGP, CMYKRGV, CMYKOGV extended process printing:
  - ColorFlow P2P51 CMYK567 - i1iO or i1Pro
  - ColorFlow P2P51 CMYK567 - i1iSis or Myiro-9

Charts for Extended Process printing with G7 support and Full Color characterization

ColorFlow clients have the following built-in custom and industry-standard charts for 6C and 7C extended process printing support. These charts support G7 and targeted Gray Balance or Tonal Match calibration curves for CMYK, and SCTV calibration for extended process inks. They also include the P2P Rows D and E tint values required for G7 Grayscale Compliance reporting. Activation of any of these measurements produces a **Full Color and Tonal** response for the selected extended process ink in set, and measurements can be exported:

- Idealliance® ECG chart for CMYKOGV extended process printing (i1iO)
- Variants of the Idealliance® ECG chart for CMYKRGB, CMYKOGB, CMYKRGP, CMYKOGP, CMYKRGV extended process printing
- Custom 7C charts for CMYKRGB, CMYKOGB, CMYKRGP, CMYKOGP, CMYKRGV, CMYKOGV extended process printing:
    - 4-page i1iO charts
    - 2-page i1iSis or Myiro-9 charts
    - 1-page i1iSisXL or Myiro-9 charts
- Custom 6C charts for CMYKRG, CMYKOG, CMYKRB, CMYKOB, CMYKRP, CMYKOP, CMYKRV, CMYKOV, CMYKGB, CMYKGP, CMYKGV extended process printing:
    - 2-page i1iSis or Myiro-9 charts

Measurement device support

Note: Support for the original i1Pro and i1iO has been discontinued by X-Rite. These first-generation devices are no longer supported by Kodak ColorFlow Software. They may continue to work, but replacement with a newer model is recommended.

- **i1Pro**: All charts identified for i1Pro support the X-Rite i1Pro2 and i1Pro3, scanning for any measurement conditions supported by the connected device. (**Note:** i1Pro3 **Plus** Spectrophotometer is **NOT** supported)
- **i1iO**: All charts identified for i1iO support the X-Rite i1iO2 and i1iO3, scanning for any measurement conditions supported by the connected device. (**Note**: i1iO3 **Plus** Table is **NOT** supported)
- **i1iSis**: All charts identified for i1iSis support the X-Rite i1iSis, i1iSis2, i1iSis XL and i1iSis2 XL, scanning for any measurement conditions supported by the connected device.
- **i1iSis XL**: All charts identified for i1iSis XL support the i1iSis XL and i1iSis2 XL, scanning for any measurement conditions supported by the connected device.
- **Myiro-9**: All charts identified for Myiro-9 support the Konica-Minolta Myiro-9, scanning for any measurement conditions supported by the connected device.