



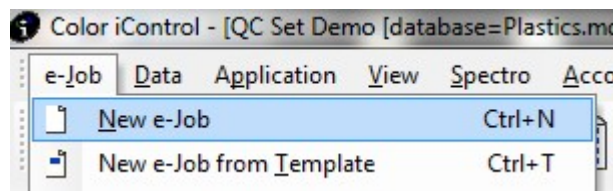
Color iQC Print Packaging Features Guide

Version 8.0 | July 2012

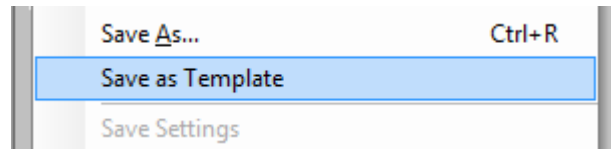
Color iQC and Color iControl | QC include features to assist in print / packaging workflows (for iQC print version, or when user settings have “Print Packaging Workflow” setting enabled). Many factors can influence the quality of a print job, and when a color is off the corrective action is not always apparent. Print Job Templates coupled with QC Sets bring together many important metrics, like dot gain, trapping, gray balance, and others, in to a common framework. QC Sets provide the press operator with the critical information needed to determine corrective actions and ensure a successful print run.

The basic steps to implement a procedural workflow for monitoring and controlling a print job are as follows:

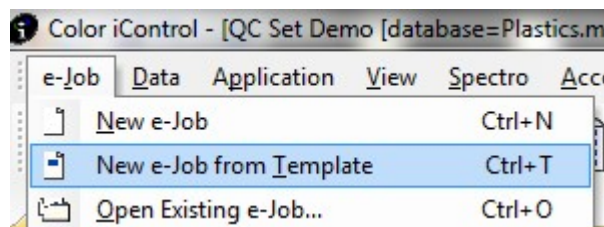
1. Create a new e-Job



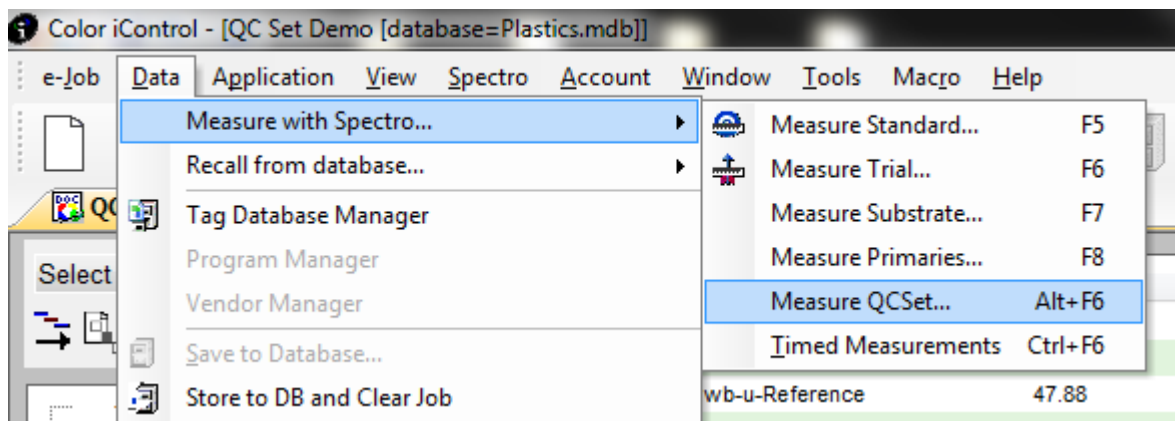
2. Within the new e-Job template create a Print Job Template to define the QC Set workflow (see below)
3. Measure or import the required standards in to the e-Job template
4. Appropriately name and save the e-Job template



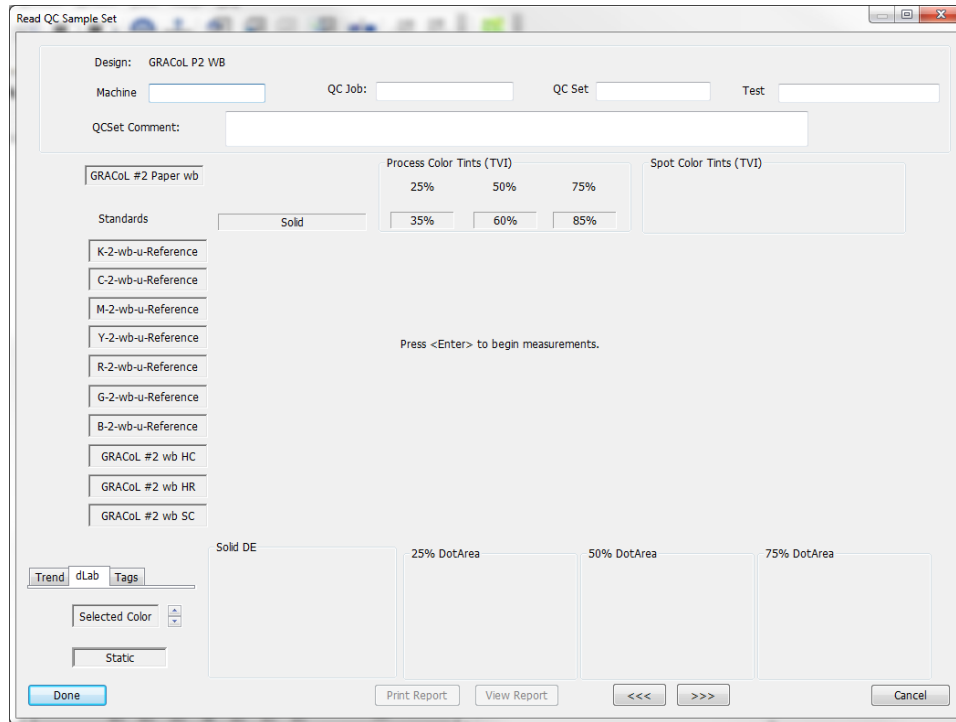
On initiating the print job workflow, the first step would be to create a new e-Job from the template created above:



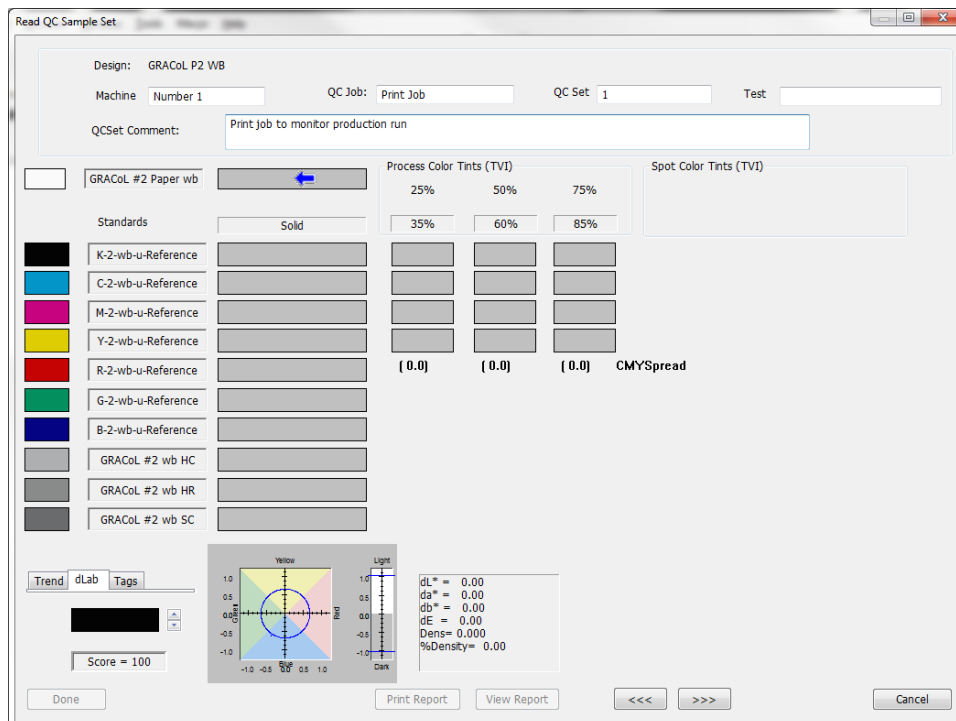
The new e-Job will open with the appropriate Print Job Template settings defined and including the required standards. The next step is to initiate measurements using a QC Set. Select the "Measure QCSet..." option from the Data | Measure with Spectro... menu item:



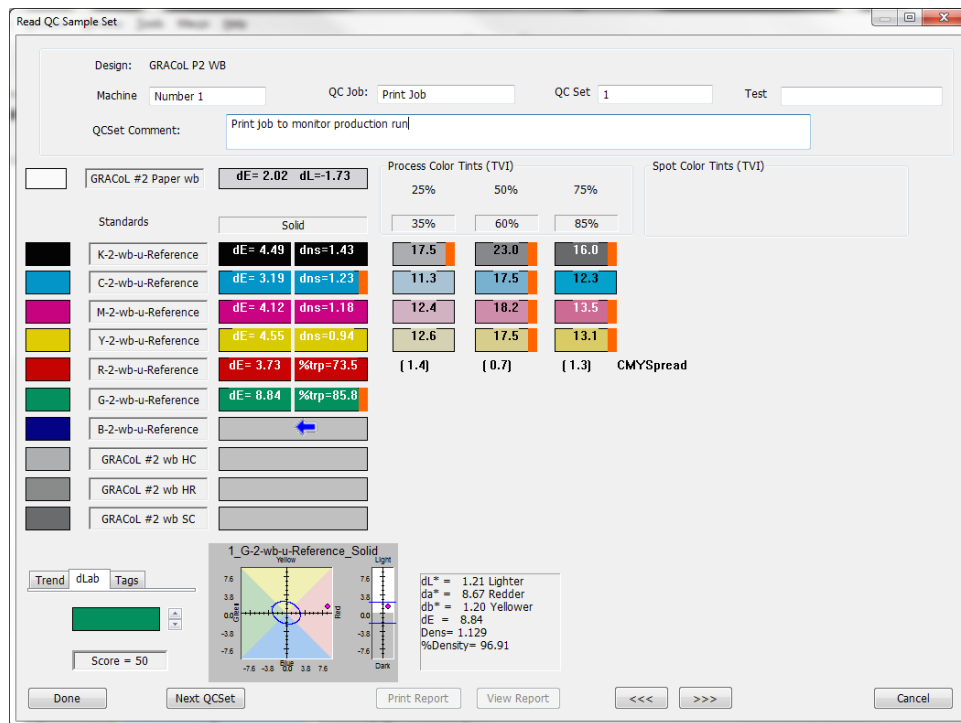
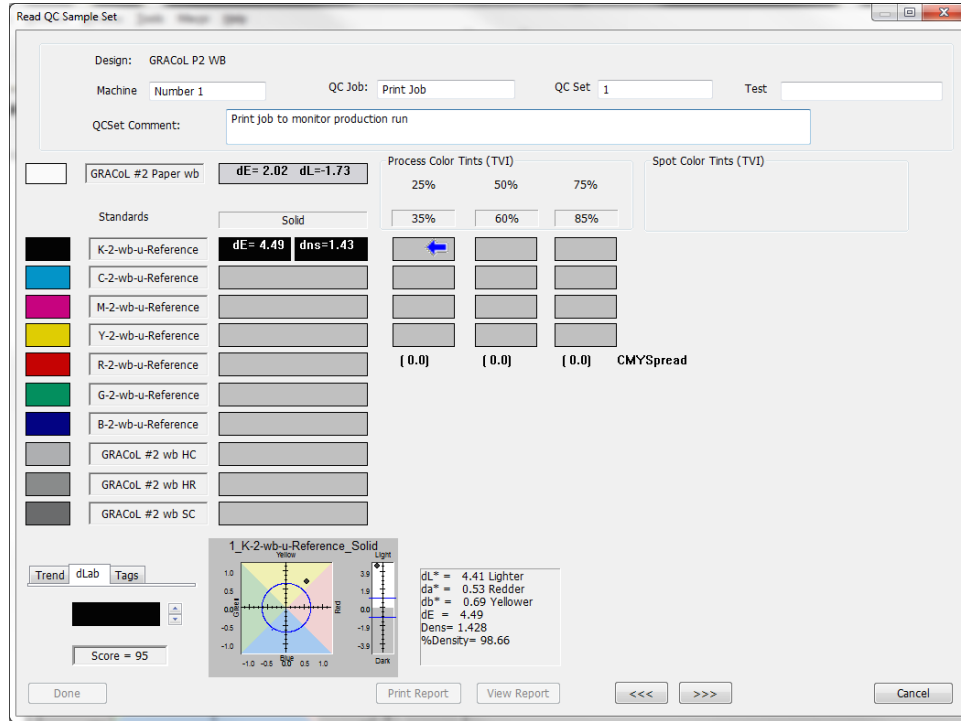
The Read QC Sample Set dialog box will be displayed:



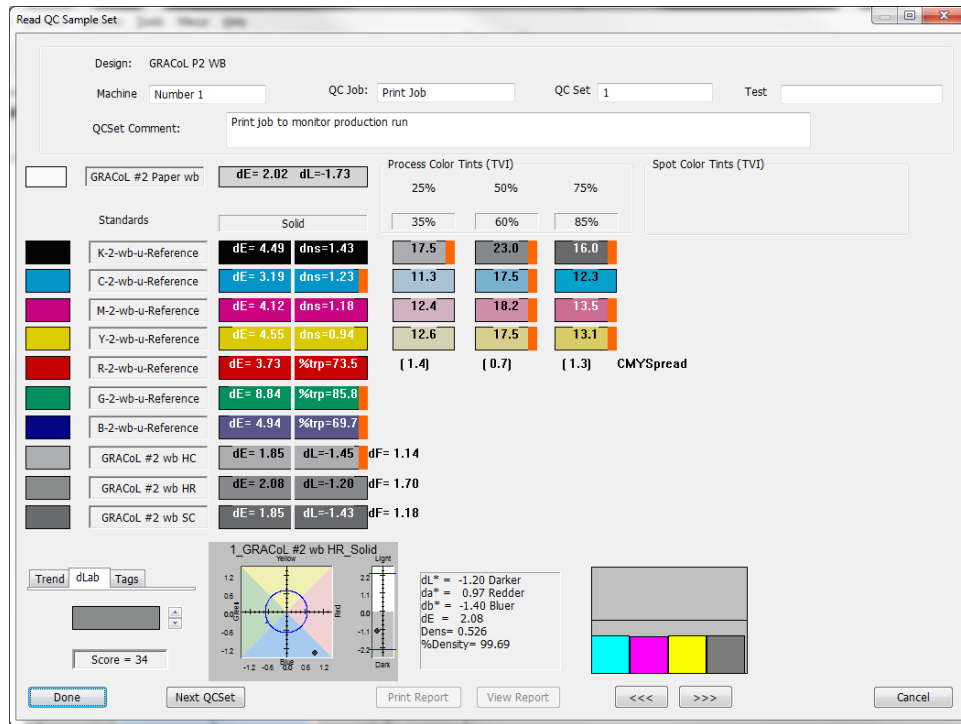
After entry of the initial QC Set run information (Machine, QC Job, etc.), the software will prompt you sequentially for the required measurements as indicated by the blue arrow:



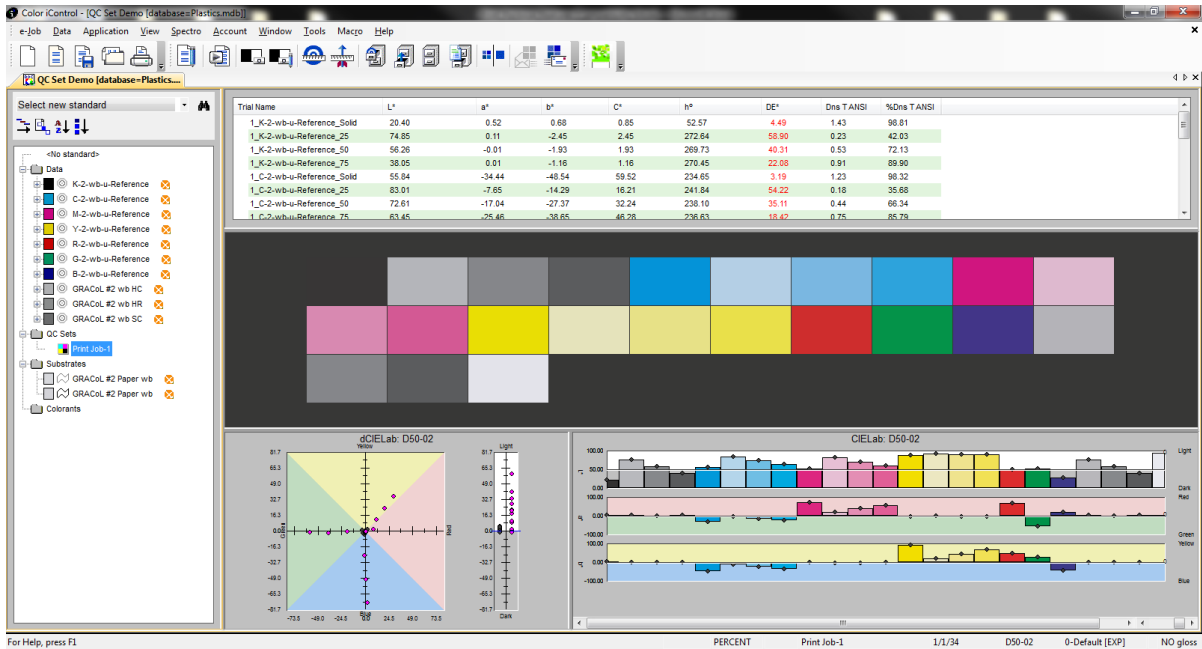
The system will continue to prompt for measurements until all of the required measurements, as defined in the Print Job Template, have been completed: The fields Machine, QC Job, and QC Set are mandatory and will persist from run to run.



When all of the required measurements have been completed, the options to exit the Read QC Sample Set dialog box, <Done>, or read another QC Set, <Next QCSet>, will be enabled:



Selecting <Done> will save all of the measurements to the active e-Job. A new data item corresponding to the complete QC Set run will be added to the QC Tree View under the QC Sets node.

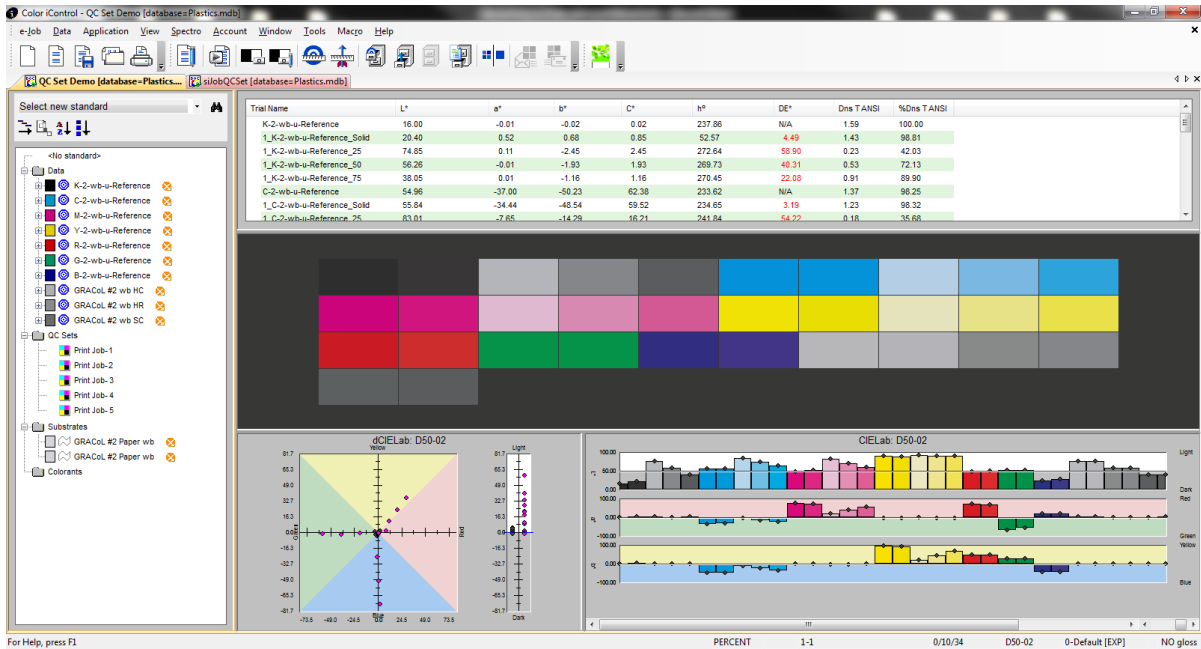


Selecting to run measure another QC Set will display the Read QC Sample Set dialog box and automatically increment the QC Set number:

The screenshot shows the 'Read QC Sample Set' dialog box. It contains the following fields and options:

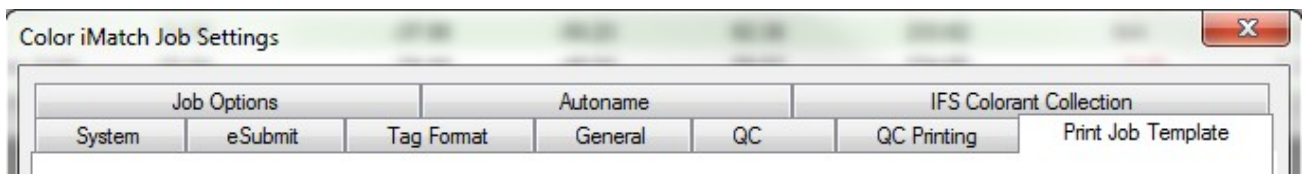
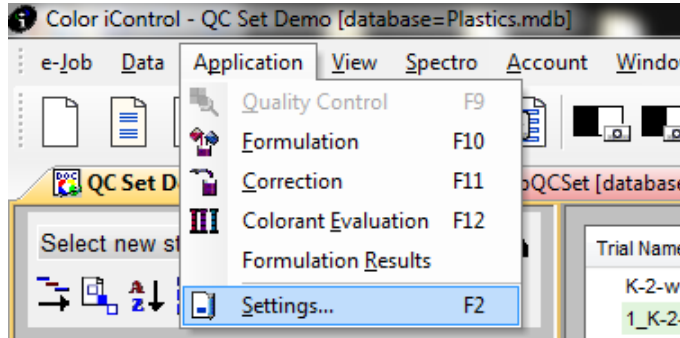
- Design: GRACoL P2 WB
- Machine: Number 1
- QC Job: Print Job
- QC Set: 2
- Test: [Empty]
- QCSet Comment: [Empty]
- GRACoL #2 Paper wb
- Standards: Solid
- Process Color Tints (TV1): 25%, 50%, 75%
- Spot Color Tints (TV1): 35%, 60%, 85%
- Buttons for standards: K-2-wb-u-Reference, C-2-wb-u-Reference, M-2-wb-u-Reference, Y-2-wb-u-Reference, R-2-wb-u-Reference, G-2-wb-u-Reference, B-2-wb-u-Reference, GRACoL #2 wb HC, GRACoL #2 wb HR, GRACoL #2 wb SC
- Message: Press <Enter> to begin measurements.
- Color bar and plots: Yellow, Light, and a CIE Lab D50-02 plot.
- Statistics: dL* = 0.00, da* = 0.00, db* = 0.00, dE = 0.00, Dens* = 0.000, %Density = 0.00
- Score = 100
- Buttons: Done, Print Report, View Report, <<<, >>>, Cancel

Subsequent runs of the QC Set will add new items to the QC Set node within the QC Tree View.

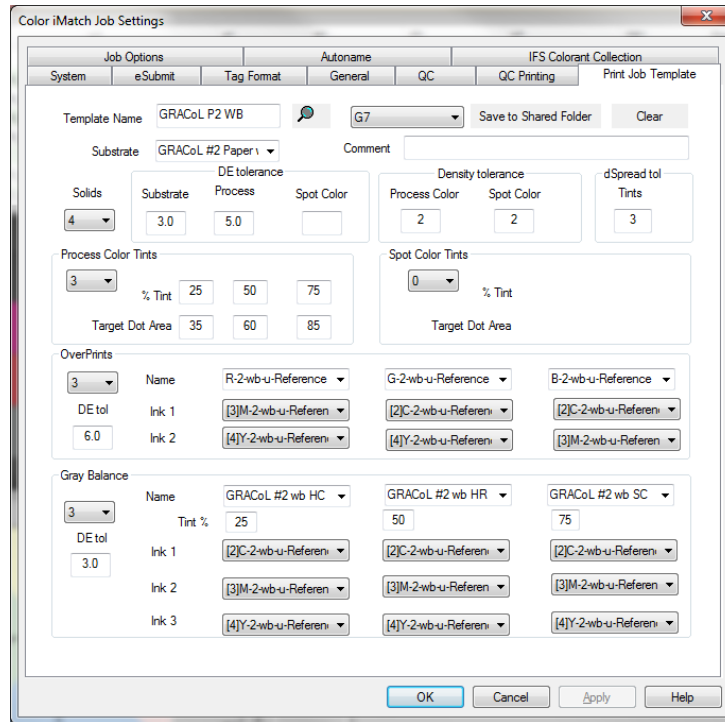


Print Job Template

The parameters that determine the operation of the Read QC Set Sample procedure are defined in the Print Job Template dialog box. The Print Job Template dialog box is accessed from the main Settings dialog box.



These settings are stored within an ejob or settings / template file (depending on your e-Job options) and define a workflow for the QCSet read procedure for measuring and controlling multi-color designs in the print / package industry.



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Template Name

Print Job Templates can be stored as named objects (*.NGHdesign) files so that they can be used across multiple e-Jobs and templates.

Substrate

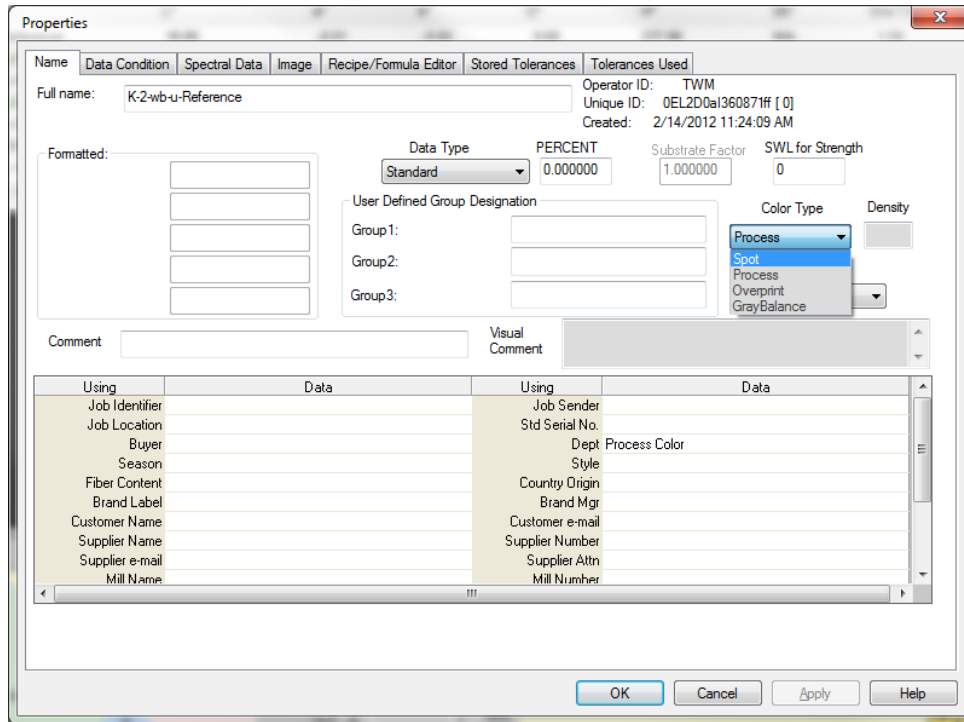
The substrate, or paper type, associated with print job template. Substrates are measured in to the system from the Date | Measure with Spectro... | Measure Substrate menu option.

Comment

Test field for adding descriptive information about the design template.

Solids

Drop down control to set the number of Solid colors used in the design template. Available settings are Auto or 0 to 10. The Auto option will set the number of solids based on the total number of Standards identified as Solid and Process colors in the associated e-Job. The maximum number is 10. *Please note that Standards can be identified as a Solid or Process color under the Name tab on the Standard Properties dialog box (shown below).*



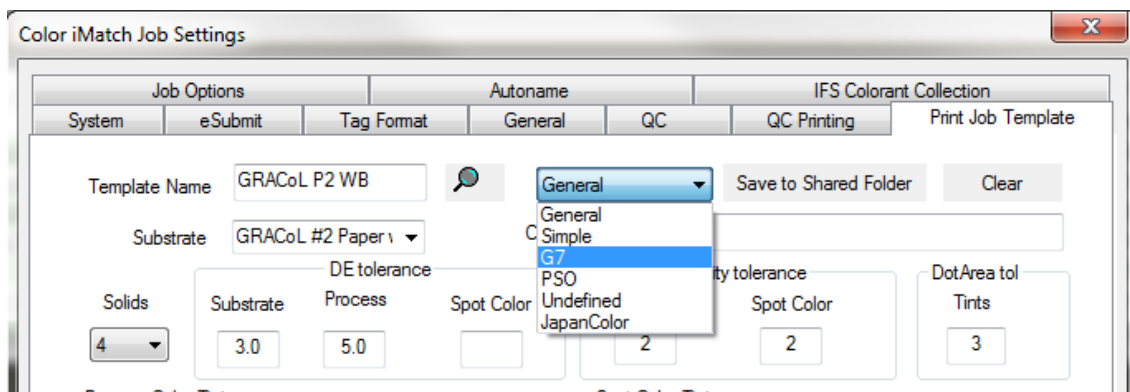
DE Tolerance

Numeric edit fields allowing you to enter DE pass / fail tolerances for the Substrate, Process, and Spot Colors.

Density Tolerance

Numeric edit fields allowing you to enter density pass / fail tolerances for the Process and Spot Colors.

The next entry field will vary based on the particular workflow selected: Simple, PSO, G7, etc.



dSpread Tol Tints

Numeric edit fields to enter the tolerance for tone value increase between cyan, magenta, and yellow in a G7 workflow.

dTVI Tol Tints

Numeric edit fields to enter the tolerance for tone value increase in a PSO workflow.

Dot Area Tol Tints

Numeric edit fields to enter the dot area tolerance limits in the General and Simple workflows.

Process Color Tints

Grouping of entries to define the number of Process Colors (0 to 3) and their associated Tint percentages and Target Dot Area values.

Spot Color Tints

Grouping of entries to define the number of Spot Colors (0 to 3) and their associated Tint percentages and Target Dot Area values.

OverPrints

Grouping of entries to define the number (0 to 3), targets, and tolerance for controlling OverPrints. OverPrints are defined by the Standard and the two inks used.

OverPrints	Name	Ink 1	Ink 2
3	R-2-wb-u-Reference	[3]M-2-wb-u-Referen	[4]Y-2-wb-u-Referen
	G-2-wb-u-Reference	[2]C-2-wb-u-Referen	[4]Y-2-wb-u-Referen
	B-2-wb-u-Reference	[2]C-2-wb-u-Referen	[3]M-2-wb-u-Referen

DE tol: 6.0

Gray Balance

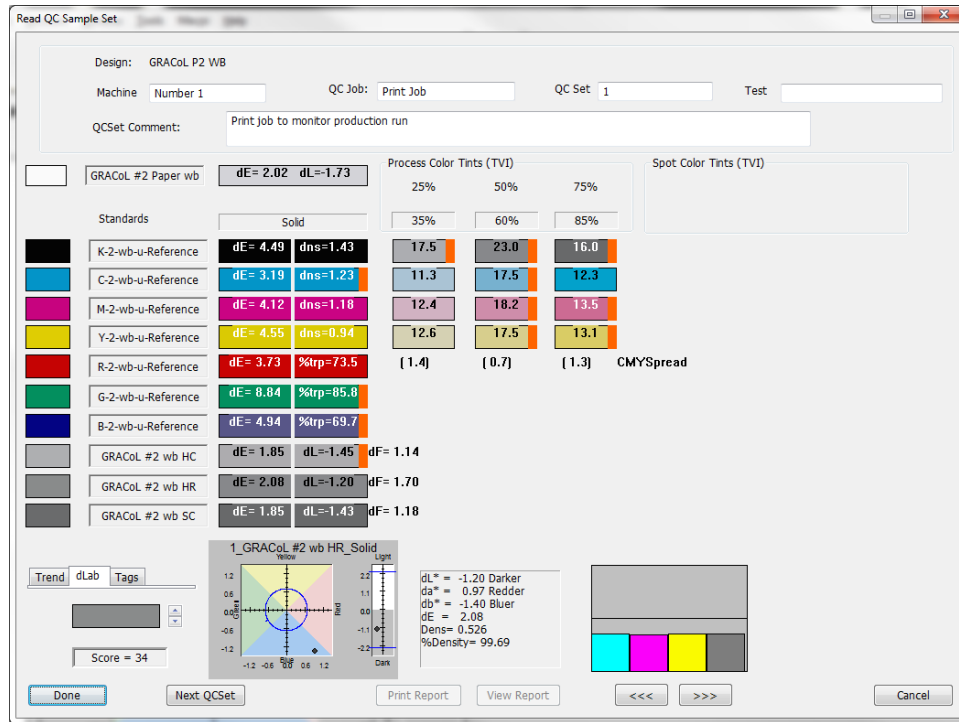
Grouping of entries to define the number (0 to 3), targets, and tolerance for controlling Gray Balance. Gray Balance is defined by the Standard, the tint percentage, and the three inks used.

Gray Balance	Name	Tint %	Ink 1	Ink 2	Ink 3
3	GRACoL #2 wb HC	25	[2]C-2-wb-u-Referen	[3]M-2-wb-u-Referen	[4]Y-2-wb-u-Referen
	GRACoL #2 wb HR	50	[2]C-2-wb-u-Referen	[3]M-2-wb-u-Referen	[4]Y-2-wb-u-Referen
	GRACoL #2 wb SC	75	[2]C-2-wb-u-Referen	[3]M-2-wb-u-Referen	[4]Y-2-wb-u-Referen

DE tol: 3.0

Read QCSETS

A QCSet Read dialog uses a Print Job Template (described above) to automatically step the user through measurement of a multi-colored print design (with solids, tints, process colors, spot colors, Overprints, and Gray balance patches), and reports on the QCSet as a complete quality control test.



Design

The name of the Print Job Template used within the QCSet procedure.

Machine

Mandatory edit field allowing you to enter a press number or description.

QC Job

Mandatory edit field allowing you to enter the name for this instance of the QCSet. Subsequent runs of this QCSet will persist this name.

QC Set

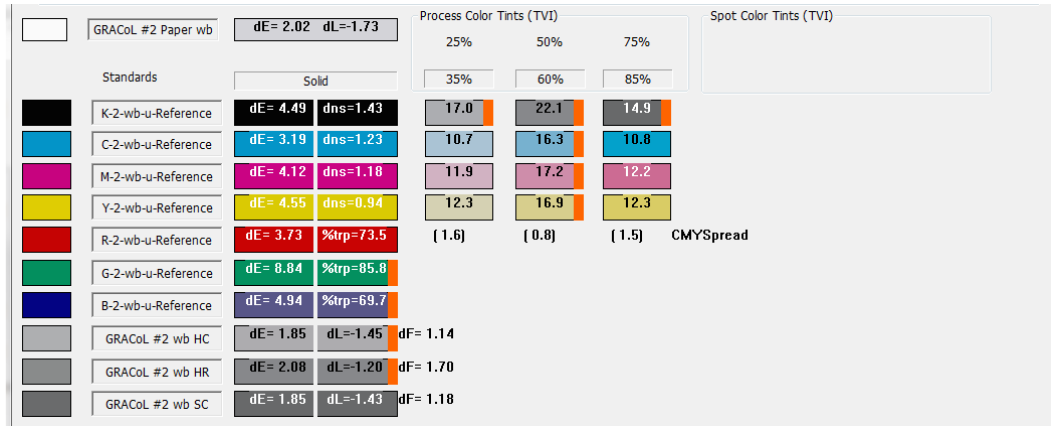
Numeric edit field to identify a print run. This value will be automatically incremented in subsequent runs of this QCSet.

QCSet Comment

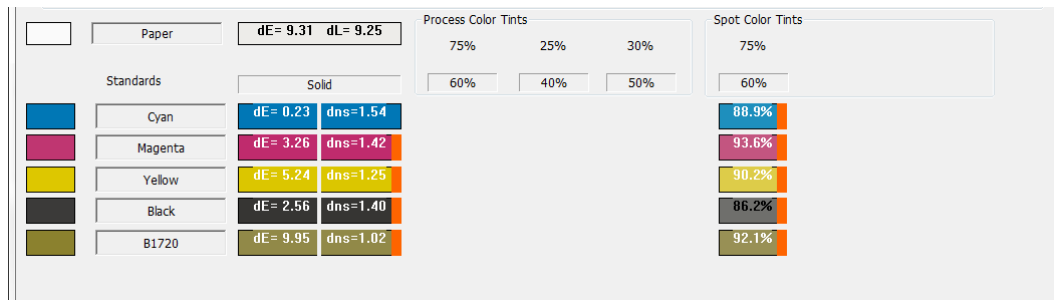
Edit field to allow information pertinent to the QCSet to be entered.

The middle portion of the Read QCSet dialog will vary based on the number and type of elements in the design: solids, tints, process colors, spot colors, Overprints, and Gray balance patches.

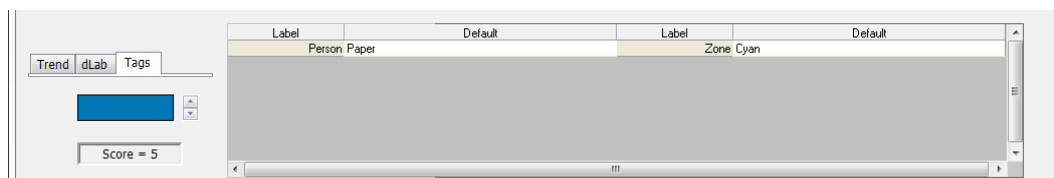
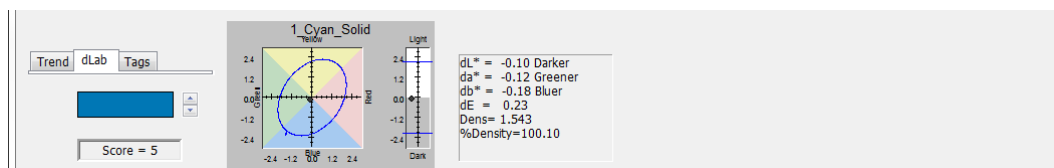
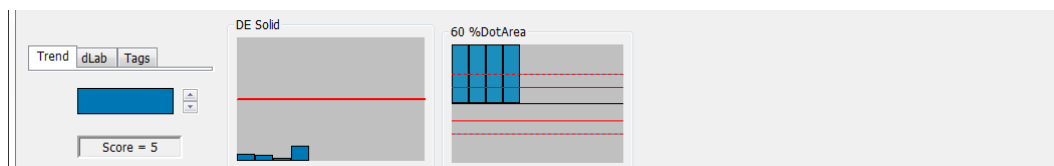
10 Targets: 4 Solids, 3 OverPrints, and 3 Gray Balance



5 Targets:

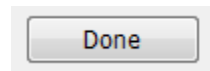


The lower portion of the Read QCSet dialog provides options to display a trend plot (showing the progression of information across multiple runs of the QCSet), a delta Lab plot, or the tag information associated to each measurement.

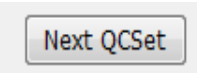


The up and down arrow controls allow you to cycle through the various color targets contained within the QCSet.

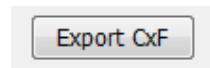
The remaining controls within the Read QCSet dialog box include:



The <Done> control becomes active on completion of the QCSet and closes the QC set view.



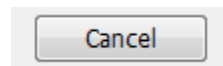
The <Next QCSet> control becomes active after completion of a QCSet run to allow you to increment to the next instance of this QCSet.



Exports the contents of the QCSet to a CxF3 file. Please note that this option is only available if a QC Set is re-opened, otherwise the CxF file is exported automatically.



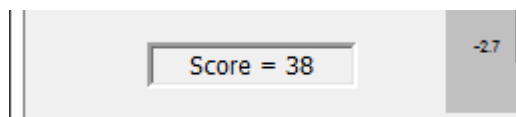
If a QCSet has been run multiple times, these controls allow you to move between the different runs.



Cancels and exits the Read QCSet dialog.

QC Set Score

There is an additional field in the lower left corner of the Read QCSet dialog box. This is the QCSet score.



The “score” is a measure of the “goodness” of the QCSet. It is based on a ranking from 0 (poor) to 100 (perfect). 50% of the score comes from the average DE of all of the solids, 25% of the score comes from the percentage of the number of failed solids (can be failed for DE or for density), and 25% of the score comes from the percentage of failed tints.