catch 5

Reference Manual

Table of content

1. Introduction 7

2. Overview 10

2.1 basICColor catch pro (basic) 10

2.2 basICColor control (QC color) 10

2.3 basICColor certify (QC print) 11

2.4 basICColor statistics (QC visual) 11

3. Quick start 13

3.1 The Wizard - the fast way to do the right job..... 15

3.1.1. Selecting the measurement device 16

3.1.2. Selecting the job type 17

3.1.3. Selecting the color space 19

3.1.4. Selecting the measuring target 20

3.1.5. Back to the Job Manager 21

3.2 The Job Manager - Expert Mode 22

3.2.1 The main functions 22

3.3The Measure Window - Overview 25

3.4The Icon bar 30
3.4.1 Measurement device features *30*
3.4.1 Instrument control *33*

4. basiccolor control (QC color) 39

4.1 Selection of control jobs 40
4.1.1 Select a control job with the wizard *40*
4.1.2.Selecting a control job in expert mode *43*
4.2 The measurement window 44
4.3 The evaluation window 47
4.4-D-Analysis. 49
4.5 Spectral curve 51
4.6 Find Color. 53
4.7 Drift Indicator. 54

5.basICColor Certify (QC print) 58

5.1 Solid Color 60
5.2 Dot Gain 64

6. basICColor Catch Statistic - statistic analisys 70

6.1 Fever Curves 71
6.2 Numeric validation area, status and data export 73

7. Advanced Settings 76

7.1 Creating Your Own Job Templates 78

7.2 Job properties tab 79

7.3 Instrument tab 85

7.4 Measurement data 89

7.5 Notes tab 93

7.6 QC color tab 94

7.7 QC print tab 101

7.7.1 QC print (Solid) 102

7.7.2 QC print (dot gain) 106

7.8 basICColor statistic (QC visual) 111

7.8.1Additional Evaluation (setup) 111

7.8.2Additional Evaluation in a Job 119

8. Creating custom Jobs 123

8.1 Tools icon 124

8.2 Editing existing Templates and Jobs 125

8.3 Import / Export Jobs 126

8.4 Direct measurement selection 126

9. Preferences 128

9.1. General tab 128

9.1.1 Job Edit Password Protection 128

9.1.2 Paths 129

9.1.3 Language and Signal 129

9.1.4 Printer settings 130

9.1.5 Reports 130

9.2 Advanced tab 131

9.3 Online Services tab 135

10. Product Information basICColor catch 138

Chapter 1

Introduction

1. Introduction

basICColor catch is a universal and very flexible tool for measuring linearisation-, profiling , and quality assurance targets.

A large number of instruments and targets is supported.

In addition to the possibility of individual design of own distinct measurement processes a wide range of important job templates are pre-configured .

This application structure is the key to high productivity and with additional modules of *basICColor catch* even more so.

The basic version of *basICColor catch* allows the measurement of any originals such as RGB or CMYK printer targets but also the individual characterization of camera targets. To create an ICC profile for your printer, *basICColor catch* generates ISO 12642 compliant measurement files that you can open to calculate the ICC profile in *basICColor print* or other ISO compliant ICC profilers.

basICColor catch and its modules can specifically be set to carry out tasks for quality assurance.

The following pages provide you with information about the individual modules and their use.

As a user of *basICColor* software you can - in addition to the information provided in this manual - contact the *basICColor* support for further inquiries.

Chapter 2

Catch Modules Overview

2. Overview

basICColor catch consists of 5 modules. They can be activated and used separately or in combination with each other.

2.1. basICColor catch pro (basic)

This module is the base module and gives the application it's name: *basICColor catch* (pro)
basICColor catch pro can measure targets of nearly all kind. The measured data will be stored in one or several files per measurement. Those data files may contain device values (RGB, CMYK), density values and colorimetric data (Lab/xyz) for different light conditions (A, C, D50, D55, D65, D75,...) and multiple spectral data for different illuminants and filters (depending on the instrument).

2.2. basICColor Control (QC color)

The first expansion module is called *basICColor contol*. It is the module for quality assurance and quality control of any output systems. It supports the Ugra/FOGRA mediawedge and many more quality control strips and targets.

2.3. basICColor Certify (QC print)

The second expansion module is named *basICColor certify* . It is designed to monitor CMYK output systems to comply with the primary-, secondary colors, process dot gain and tone value spread . It can, for example, be used for the introduction of the Process Standard Offset (Printing).

2.4. basICColor statistics (QC visual)

basICColor statistics allows to add meta data to the evaluation values for visual quality control purposes. It is also able to make graphical analysis and a comparison of all measurements within a *basICColor* Job possible.

2.5. basICColor calibrate

This module is used for generating calibration curves for CtP plate-setters and presses .
Correction curves created with *basICColor calibrate* can be loaded directly into the RIP of the output system .
Thus *basICColor calibrate* is a simple and fast tool to adjust the tone value curves of the any output device to standards such as the PSO (Process Standard Offset).

For handling the module *calibrate* please refer to the seperate manual *basICColor calibrate*. You can find a copy of the manual in the application folder of *basICColor catch* or on our website:
http://www.basiccolor.de/user-manuals/

Chapter 3

Quick start - The Wizard

3. Quick start - The Wizard

basICColor catch offers a variety for color measurements to be done, to be assessed and to be evaluated . Furthermore, various jobs serve the quality assurance in digital and conventional (print) workflow..

It is also possible to forward the measurement results, let's say of a profiling target for example, directly to a further processing application like *basICColor print 3*.
In addition, a variety of instruments are supported by *basICColor catch*.

If you look at all the *basICColor catch* ready-made jobs, it might be a difficult choice to find the "correct" job for one's task.

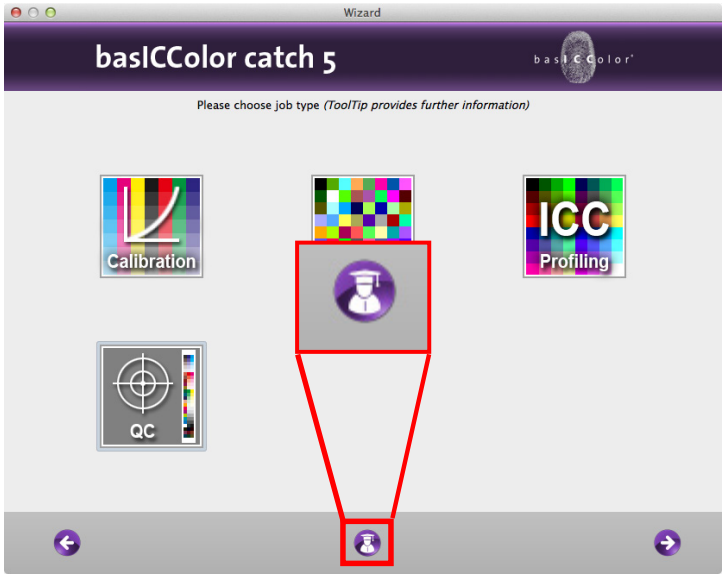
For this reason, *basICColor catch* offers two ways of job selection. The expert mode and the wizard mode that allows to select the "correct" ready-made job step-by-step based on your measurement device and workflow.

The wizard should be seen as an assistent . It guides the user by a select-choice to the the correct predefined job.

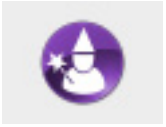
***NOTE**: The wizard of basICColor catch operates dynamically . That means that only measurement devices, job types, color models and targets are listed for which there are predefined Jobs in basICColor catch.*
If an instrument, job type etc. is not listed, then there is no predefined Jobs in basICColor catch that matches and can therefor not be selected.
In this case a suitable job must be created in the expert mode first (refer to chapter 7 - Advanced Settings and chapter 8 - Creating Custom Jobs) or be added via the import function of basICColor catch.

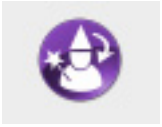
3.1 The Wizard - the fast way to the right job

basICColor catch starts in the wizard mode by default. The wizard will guide you step by step the correct Job in the Jobmanager. You can exit the Wizard and switch to the Expert mode at any given time. Click the “Student” icon in the progress bar to directly get to the Jobmanager.



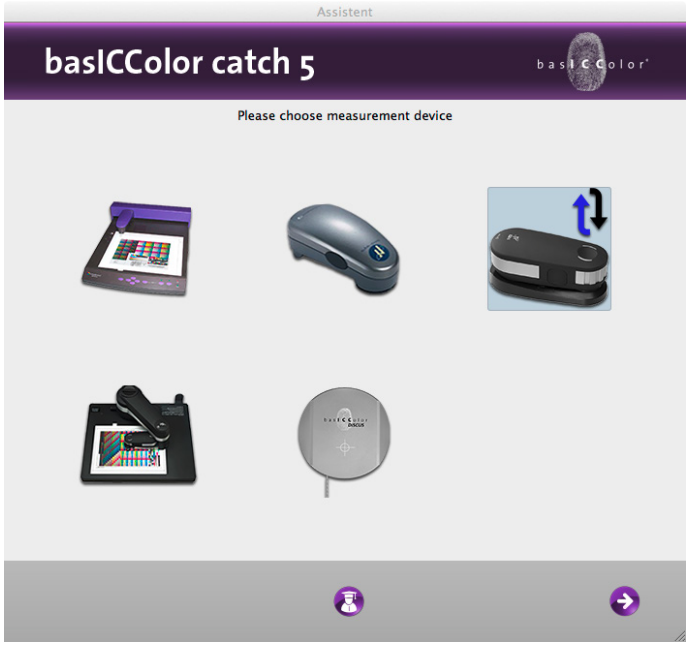
If you are in the Jobmanager window of *basICColor catch* and want to return to the Wizard, click the icon “Wizard” or “Return to Wizard” in the progress bar.





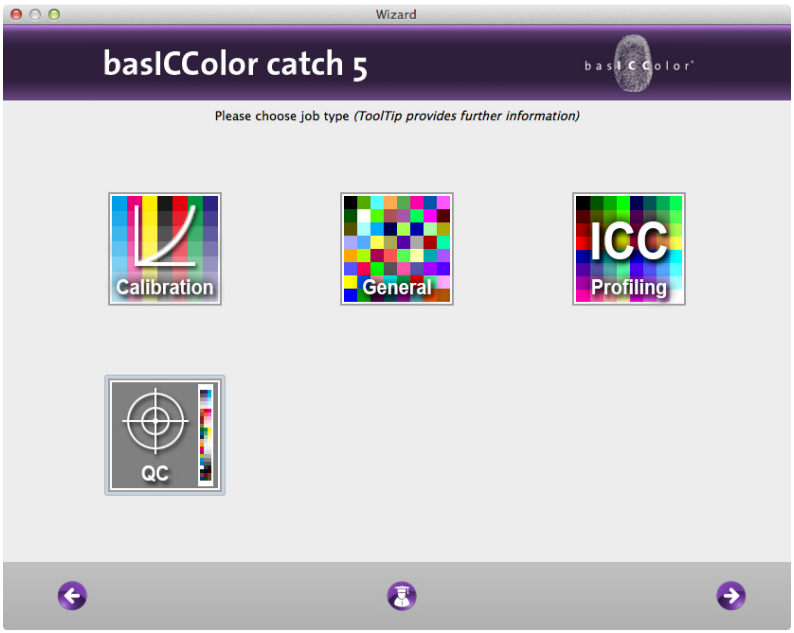
3.1.1 Selecting the measuring device

First step is to select your measurement device.
When you have selected the right instrument, click on the " Next " button (bottom right) to move to the next step .



3.1.2 Selecting the Job Type

With the job types you determine the actual nature of the measuring jobs that you want to perform. *basICColor catch* essentially provides four different types:



Calibration: If you want to calibrate or to linearize equipment then select this category (eg linearization of a CtP).

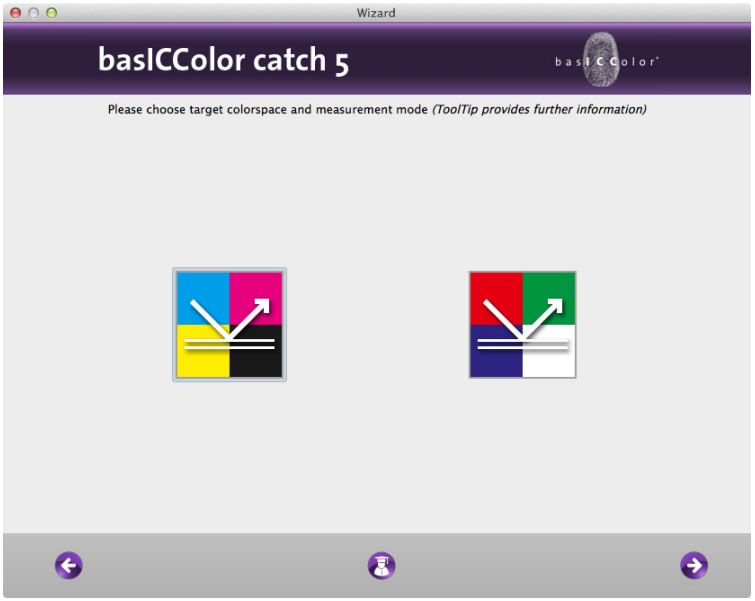
ICC-Profiling: Choose this category when it comes to measuring profiling targets (eg profiling for a printing system) .

QC (Quality Control): If a device or a process needs to be checked for certain output criteria (eg. evaluation of a Ugra/ Fogra media wedge), choose this category .

General: All measurement tasks , that can not be assigned to one of the categories above, are found in this area .

3.1.3 Selecting the color space

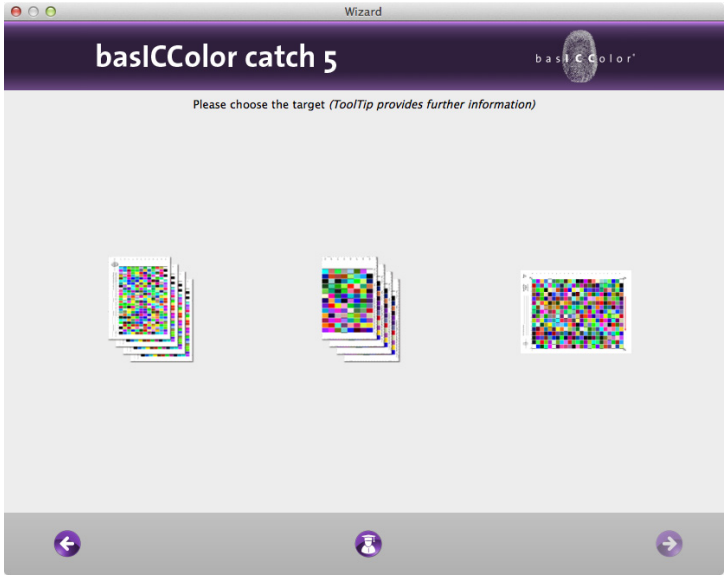
Please select a color space to narrow down the job choices.



3.1.4 Selecting the measuring target

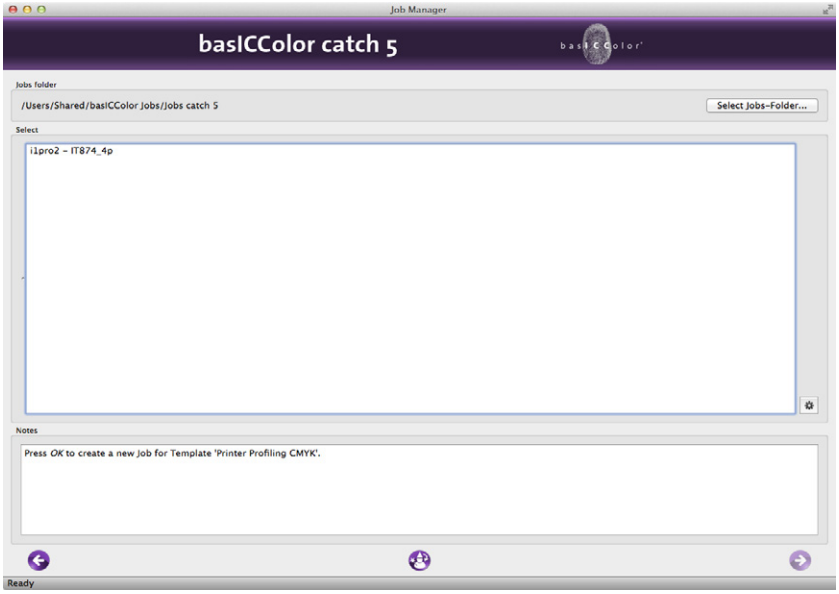
The final step of choosing a job is the choice of a specific measured targets .

This last Wizard window lists all targets that are available in *basICColor catch* that fit the selected criteria in the wizard so far.



3.1.5 Back to the Job Manager

After the final selection the wizard switches back to the job manager of *basICColor catch*. Only the jobs that meet the selections made in the wizard are listed. In our example it is a job for the measurement of a 4-page CMYK target type IT8 / 7.4 and the X-Rite i1 Pro. 2 instrument.



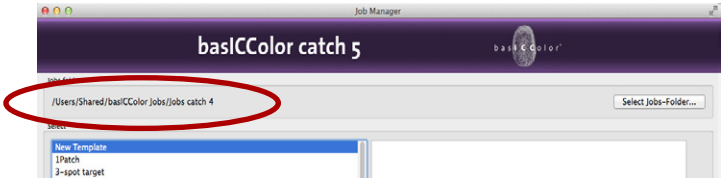
In certain cases more jobs can be in the list to choose from. Double-click or click "->" a marked job to open the measurement window and start the job..

3.2 The Job-Manager - Expert Mode

Change to Expert Mode by clicking the “Expert” button located in bottom centre of the Job-Manager window. Here you have direct access to all jobs available and you can add new jobs, import, export and manage the jobs. The job manager is therefore the central hub to manage the jobs on one hand and to have access to all functions of the optional modules, *control, certify, statistics* and *calibrate* once licensed.

3.2.1 The Main Functions

The „Job Manager“ window is divided into four areas.
The header area shows the path to the Jobs folder on your harddrive. The Jobs folder contains all predefined Jobs and Job Templates. You can switch between different Jobs folders by clicking <Select Jobs-Folder...>.



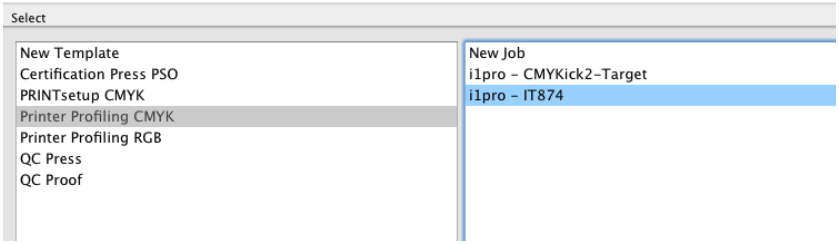
By default the Jobs folder is also the location where all measurement data will be saved, unless you redirect it by changing the export settings in the „Edit Job“ window.

All jobs that are in the selected job folder will then be displayed in the second area “Select” .

This second area is divided into two sections:
The left section lists all pre-defined and user created Job Templates.

A Template contains the core parameters of a *basICColor catch* Job (e.g. target type, measurement instrument, presets, etc.).
For example, if you want to measure a target for a CMYK-printing device select „Printer profiling CMYK“. For other tasks choose the according Template.

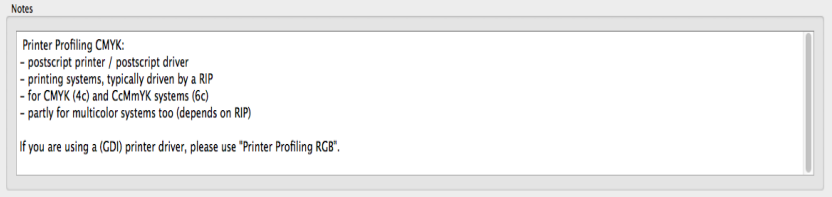
Select a Template with **ONE** mouseclick. You'll see the associated Jobs in the right section. Jobs are completed Templates with **ALL** informations required for a Job, e.g. target type, target layout (suited for a specific measurement instrument), the data to be saved in your measurement file, etc.
The names of the pre-defined Jobs indicate the target type and measurement instrument.



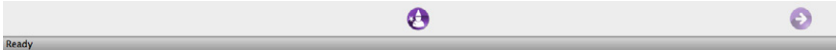
Hinweis: Job Settings

Read chapter 7 “Advanced Settings” on how to edit existing jobs or create new jobs.

When you select a Job with **ONE** mouseclick you will see detailed information on that Job in the „Notes“ area. These notes can be edited to your needs in the Job Editor.



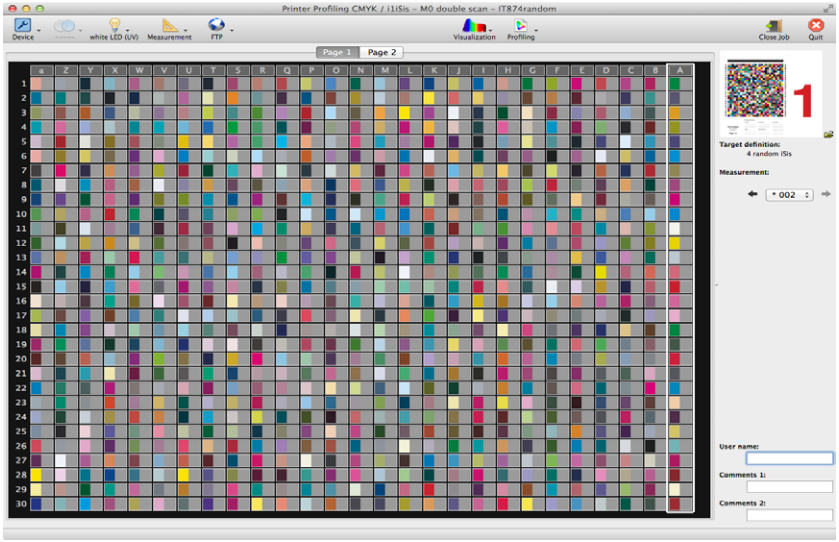
In the bottom area you find the buttons defining how to proceed with the selected Job.



Click the wizard button to return to the wizard and start a new search. To start a job and to open the „Measure“ window click the “->” button or double-click the job name.

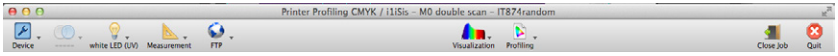
3.3 The Measure Window - Overview

Once you have selected and started a job, *basICColor catch* is connecting and calibrating the measurement device. When done (or skipped) the measurement window opens automatically.



The Measure window is arranged in three main areas.

In the top area the icon bar shows the name of the job and icons for variable functions. The functions behind the icons are dependant on the job and the measurement device. If an icon is “greyed out” the function is not available due to job specification or measurement device incapability.



To the right of the measurement field you can find a preview of the measurement chart (with page number).

Next to the preview you can find a link (if available) to reveal the folder holding the files in Finder/Explorer.

"Target definition" states the exact target name.

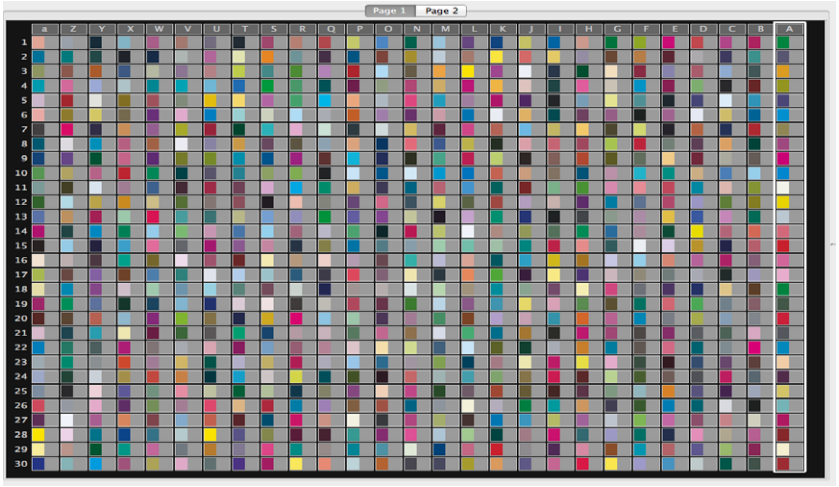
"Reference file" states the exact name of the reference file (if selected). Choose a new reference file by clicking the folder icon. *Attention! Selecting a new reference file will alter your results!*

The "Measurement" pull-down menu shows the running measurement number of the target. Step back and forward a single measurement with the "<-" and "->" buttons or quickly select an "older" measurement via the pull-down menu. Measurements containing saved data are marked with an "#".

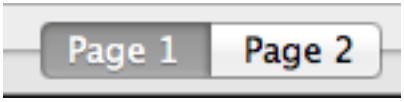
When opening a job *basICColor catch* starts a new measurement with the next unused (continuous) measurement number.

Fill in additional information (if required) regarding the measurement in the bottom right corner. You might want to memorize who did the measuring and/or leave other comments, too.

In the main area you can see a display of the target to be measured.

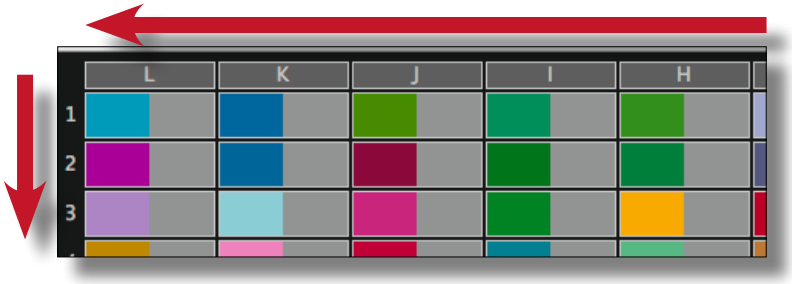


The tabs above the target show how many pages the target has what page of the target can be measured.



The number of pages of the target is dependant on the target and on the measurement instrument. For example the same target can have 6 pages for measurement device A and only one page for measurement device B.

The measurement patches are arranged in rows and columns. They start on the right side of the window with column „A“ and continue to the left. The rows are numbered continuously downward.



Each patch is divided in half. The left half shows a rough preview of the color for visual comparison with the measurement. Before you start measuring, the right half of the patch is grey.

It changes its color after measuring this patch. Preview and measured color should be similar. That means if you see a blue color on the left side of the patch, the color on the right side of the patch should be blue too. If it is green the measurement is wrong and you should check if you have measured the correct patch or strip.
The color on the left side can be used as a visual control tool for correct measurements.

3.4 The Icon Bar

Depending on what measuring device you use and/or if you want to analyze or process a target according to specific criteria , the various functions of *basICColor catch* are made available in the icon bar or not.

***NOTE**: Some functions or jobs can only be used if the to the job belonging corresponding basICColor catch module is licensed .*

The functions behind the icons are in detail:

3.4.1 Measurement device features

The first three icons refer to the functionality of the measurement devices.
It depends on the measurement device if the icons (ie: the functions) are "geyed out" or not.

basICColor catch is the software that supports a large number of instruments; it is designed to support all different kinds of instruments:

- **Point and Click Instruments**
- **Strip Readers (scanning instruments)**
- **xy-Tables**
- **Page Readers**

***NOTE** : We provide seperate manuals for selected measuring devices that describe the handling of the instrument in combination with basICColor catch*
In each manual the available features, that can be selected via the icons located in the measuring window, are highlighted again.
This manual only describes the handling of the X -Rite i1 Pro(2 in combination with basICColor catch . The X -Rite i1 Pro(2) is one of the most used spectrophotometers and is more or less than the " standard device" in today's market.

The software automatically detects the properties of the instrument connected and starts up with the optimal mode, e.g. in scanning mode for a strip reader. Most strip readers or xy-tables are able to read single patches also.

In *basICColor catch* you can change the mode during measuring. This allows for re-measuring single patches that have been measured incorrectly (smudged patches, failed strip recognition due to low contrast between patches in strip reading mode...)

Point And Click (spot measurement)

Some handheld instruments require each patch of the target to be measured manually. Position the instrument on the patch marked with a white frame and click the <Measure> button. This can be a physical button on the instrument or the <Measure> button in the GUI of *basICColor catch*. The white frame advances to the next patch automatically.

Strip Reading

The „scanning“ mode can be identified by the white frame around the first column of patches. This mode will automatically be used for strip reading measurement devices like the Konica Minolta FD-7. Some xy-measurement devices like the X-Rite i1 iO support strip reading as well and all strip readers support the point and click mode. You can toggle from strip reading to single patch mode by clicking on a single patch and back to strip reading by clicking on the header of the column (the letters A, B, C, ...).

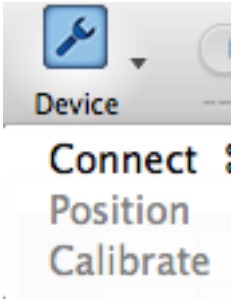
XY-Tables

Instruments on xy-tables start at the first patch (upper right corner of the target) and read a full page, patch by patch. *basICColor catch* can be configured to read in any order (see Advanced Settings). Some xy-tables like the i1 iO can be set to strip reading mode or even to single patch mode, and all can be forced to re-measure a patch that had been measured incorrectly.

Page Readers

Some instruments read a complete page, they cannot be set to strip mode or single patch mode (X-Rite iSIS, Barbieri Swing).

3.4.2. Instrument Control

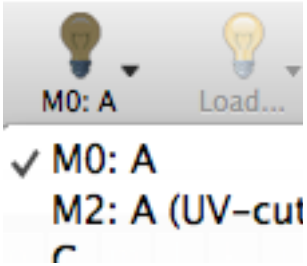


Device Button

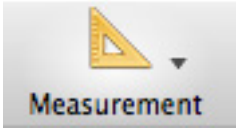
The default setting for *basICColor catch* is to connect with the instrument automatically when you start a job. With a click on the icon and then <Disconnect> the instrument will be disconnected, e.g. for temporary use in a different program. Instruments cannot be connected to 2 different programs at the same time. With another click on the same button (the name has switched to <Connect>) the connection between the software and the measurement device will be re-established.

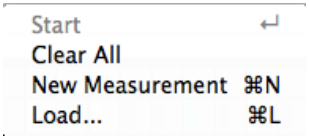
The <Position> button is only active if an xy-instrument is connected. With a click on this button a new window will pop up which will give you instructions for positioning the measure head on the corners of the target. Only with correct positioning information can the software recognize the correct position and dimensions of the target on the xy-table and will be able to measure each patch correctly.
The <Calibrate> button re-calibrates your instrument manually without disconnecting and re-connecting, e.g. in order to stabilize measurements after a warm-up period of the instrument. You will be prompted to calibrate before you start measuring.

Filter Button
Some measurement instruments have the option to switch between different filters. In the default setting no filter is selected.



Light Scource
Some measurement instruments have the option to switch between different light sources. Select the light source you like to use to measure the chart.





Measurement Button

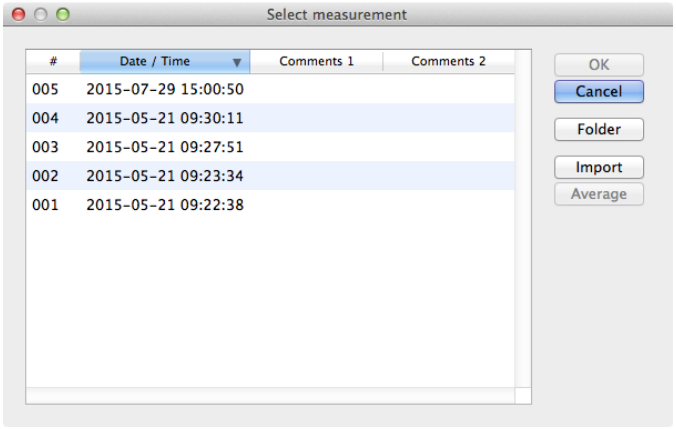
The „Measurement“ menu behind the Icon offers some options concerning the measurement data:

The <Start> button is only active for automatic measurement devices (mostly xy-tables and some strip reading devices). When a semiautomatic or manual measurement device like the i1 pro is connected this button is greyed out. These instruments are normally operated via a physical button on the instrument.

<Clear All> will erase all displayed data without further warning. The Job will not be saved and the Job counter will remain unaffected.

If you have finished a measurement and want to create a new measurement for the same Job click <New Measurement>. The current data will be saved automatically, the measurement window will be cleared and the Job counter will be set to the next higher number. Should the measurement be incomplete, you will get a warning and you have the option to save or discard the measurement or to go back to the Measure window

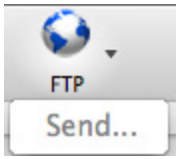
A click on the <Load...> button opens a window that lets you select previous measurements of the active Job. Select a measuring number and click <OK>.



Click on the <Import> button for loading measurement data from other job. Make sure that the target is of the same type, or you will possibly load incomplete measurements. *basICColor catch* will assign the measured values with the correct patches, if device data are stored in the measurement file. Patches with no matching measurements will remain gray.

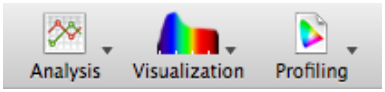
NOTE: *We advise to import measurement data with a „.mmd" suffix, these contain (encoded) spectral data and are more accurate than data that "only" contain Lab-data.*

In the *basICColor catch pro* module you can average multiple measurements. Select multiple measurements from the list and click <Average>. *basICColor catch* will create a new measurement (number) window with the averaged data.



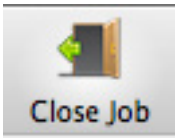
Webservice

The <Send...> button allows you to send your measured data directly to an on-line quality management solution like iQIP® or to an FTP site for collecting measurement data online. The configuration of this service will be covered in Chapter 4 „Advanced Settings“

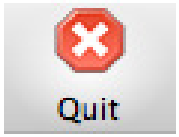


Evaluation Icons

For the use of the Evaluation buttons please refer to chapters 4, 5 and 6.



To return to the Job Manger and to close the measurement window click <Close Job>. If the current measurement is not finished *basICColor catch* will ask you if you want to save or discard the measurement.



The <Quit> button will quit *basICColor catch* immediately. If there is any unsaved measurement data, a warning window will pop up. Now you can either save or discard your measurement or cancel and return to the Measure window.

Chapter 4

basICColor control (QC color)

4. basICColor Control (QC color)

This module adds quality management and quality control to the basic functions of *basICColor catch*. Next to the Ugra/FOGRA mediawedge *basICColor catch* also supports a wide range of other mediaweges and targets.
basICColor control (QC color) analizes the measured data and also creates a label (e.g. for proof prints) and a detailed PDF report.

Basically, the *basICColor control* module enlarges a basic job to specify measurement criteria. The criteria by which the job will be extended , are primarily based on the requirements of ISO 12647-2 , the Print Media Standard (MSD), or the Process Standard Offset (PSO) and specify the tolerances that have to be met by the control strip of a proof.

The criteria and tolerances for the evaluation in variable conditions are described in detail in the appropriate standards. At this point we therefore renounce a detailed explanation and refer to the appropriate documentation of standards.

4.1 Selection of Control Jobs

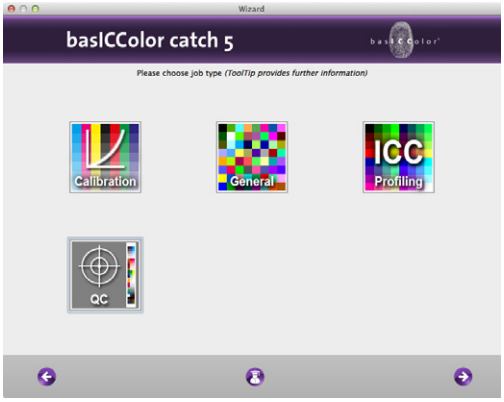
Within the logic of *basICColor catch* a *control* job is classified in the category "QC - color". There are two ways of opening a *control* job..

4.1.1 Select a Control Job with the wizard

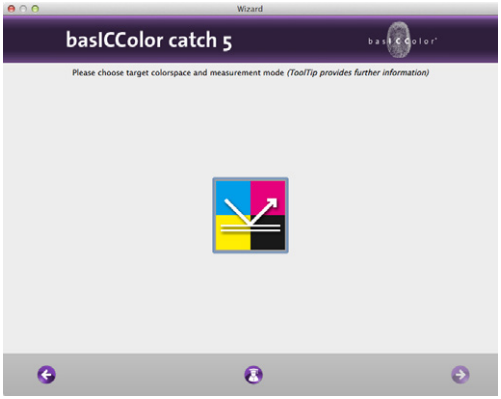
After the start, *basICColor catch* opens the wizard who will assist in the selection of appropriate jobs for your application.
Note: Please refer to page 13 if you cannot select a *contol* job.

First select the instrument you use.

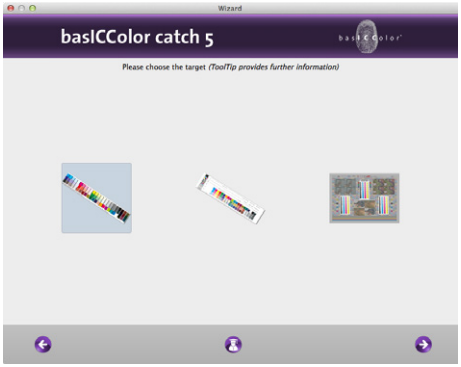
Next, choose the category “ Quality Control” .



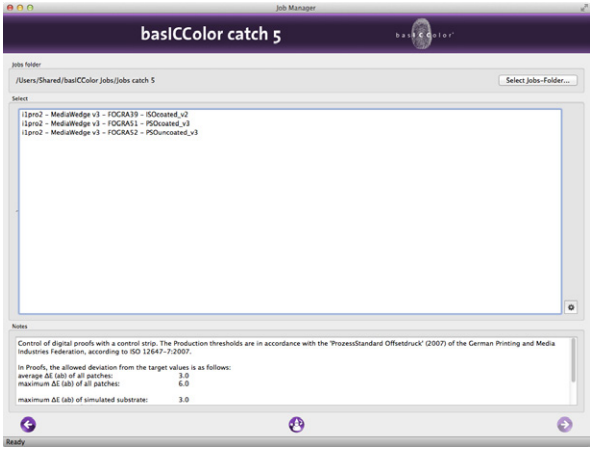
Select which quality assurance target you want to measure in the following window.



Select a target from the available QC color targets in the last step.

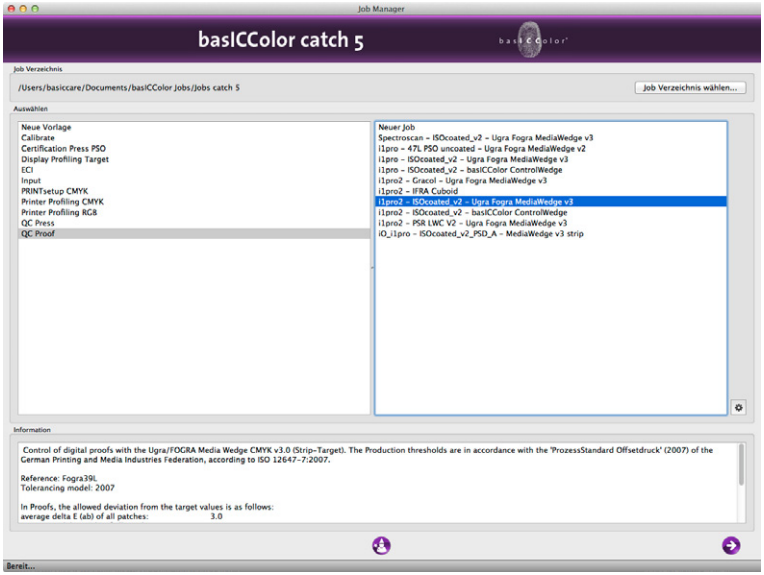


Once selected the wizard closes and *basICColor catch* shows all the available jobs for the chosen target in the job manager. Double click or "->" to start a job.

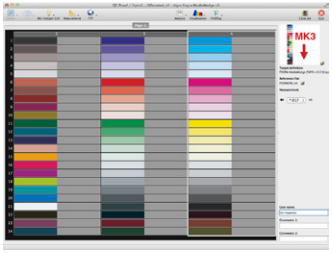


4.1.2 Selecting a control job in expert mode

The selection of a *basICColor control* job may be slightly faster than through the wizard.

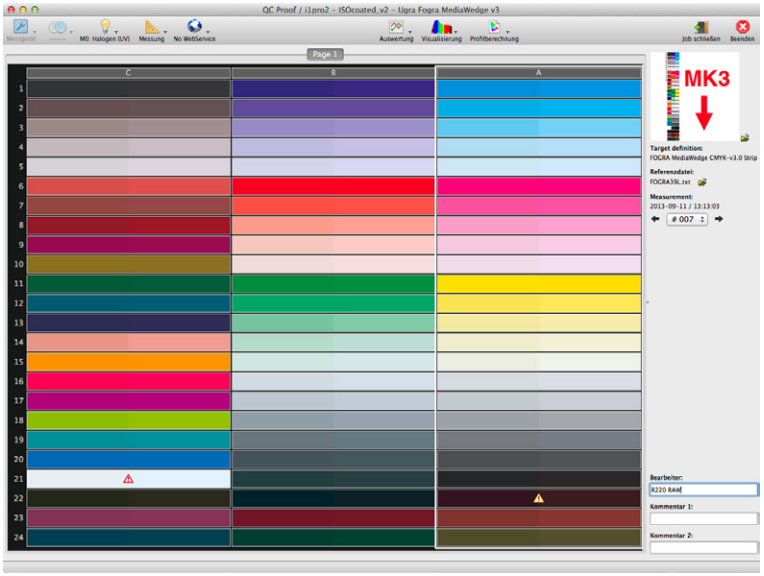


On the left side of the job manager of *basICColor catch* choose " QC Proof" . Then select the desired job on right side.
The job name indicates the measurement device, the reference data and the target name. Double click or "->" to open the job.



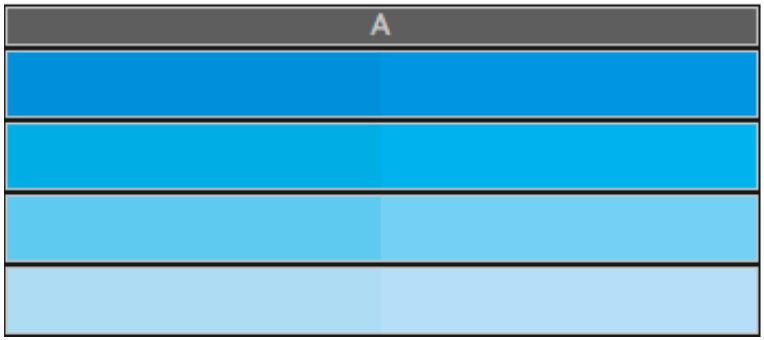
4.2 The measurement window

After you have selected and started the *control* job by double clicking or clicking "->", the measurement window of *basICColor catch* opens. Please measure the target.



When the measurement is complete further information about the individual measurement fields are shown.
This way you can already see whether and how the conditions laid down in the *control* job specifications are evaluated.

Each measuring field is divided into two parts. On the left the expected color of the measurement field is shown . On the right side is the measured color is displayed.
An unmeasured field is grey on the right side.



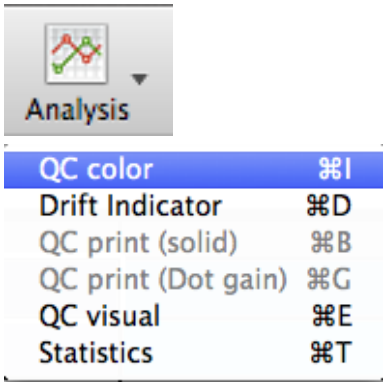
The left and the right side of the measuring field should approximately show the same color (red - red, green - green , etc.) after measuring. If different colors are shown (red - green , green - blue , etc.), then a patch was measured incorrect. Please repeat the measurement.

basICColor control compares the measured value directly with the specifications set in the job reference . If the readings are outside the tolerances a warning appears in the measurement window immediately.

No warning: all tolerances have been met

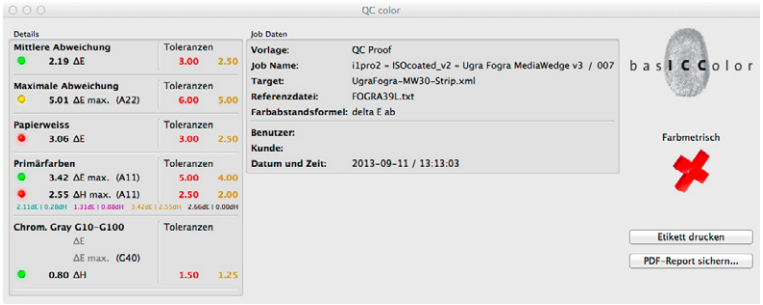
warning: the user-defined tolerances have not been met

warning: the tolerances of the standard have not been met



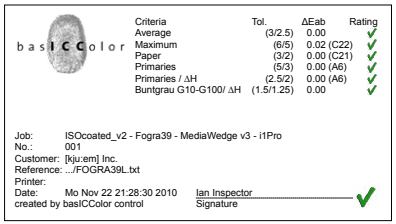
4.3 The evaluation window

This window can be opened manually by selecting „QC color“ from the „Window“ menu of *basICColor catch* or by a click on the “Analysis”-icon. Alternatively the window can be opened using the shortcut keys <ctrl>-“i“ or ⌘-“i“.



On the left side of the window you can see a detailed list of the criteria and tolerances as well as the result of the analysis.
The center of the window shows the relevant meta data of the Job: Template and Job name, target, reference file, tolerance model, user and customer names (if entered) and a date/time stamp.
In the right area of the window an icon symbolizes the pass/fail status:

- ✔ means: All criteria have been met
- ✘ means: One or more standard criteria have NOT been met!
- ! means: All standard criteria have been met, one or more of the optional, narrower custom tolerances have not been met.



basICColor

Criteria	Tol.	ΔEab	Rating
Average	(3/2.5)	0.00	✓
Maximum	(6/5)	0.02 (C22)	✓
Paper	(3/2)	0.00 (C21)	✓
Primaries	(5/3)	0.00 (A6)	✓
Primaries / ΔH	(2.5/2)	0.00 (A6)	✓
Buntgrau G10-G100/ ΔH	(1.5/1.25)	0.00	✓

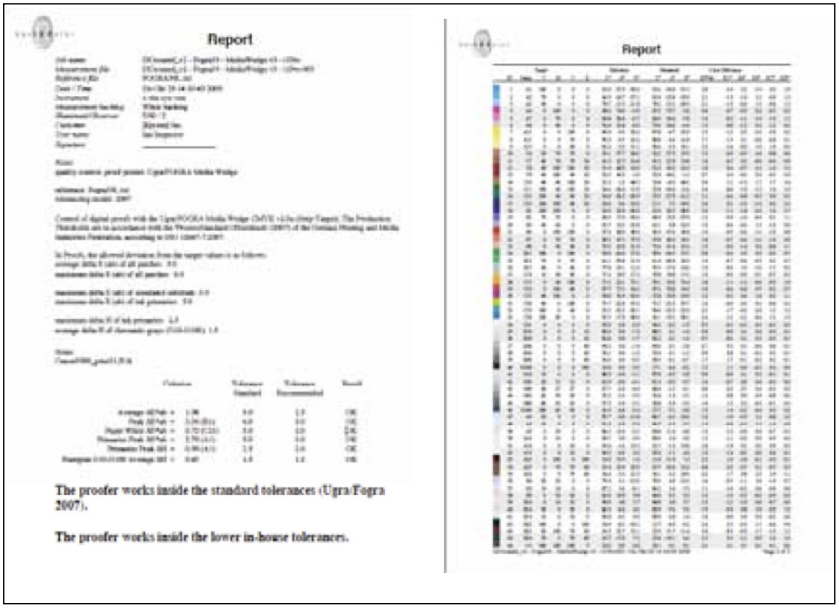
Job: ISOcoated_v2 - Fogra39 - MediaWedge v3 - i1Pro
No.: 001
Customer: [kju:em] Inc.
Reference: .../FOGRA39L.txt
Printer:
Date: Mo Nov 22 21:28:30 2010 Ian Inspector
created by basICColor control Signature ✓

Print Label

A click on the button <Print Label> will send a compact report to a printer connected to your computer. Usually this report is printed on a label-printer. The label is then attached to the backside of the proof print.

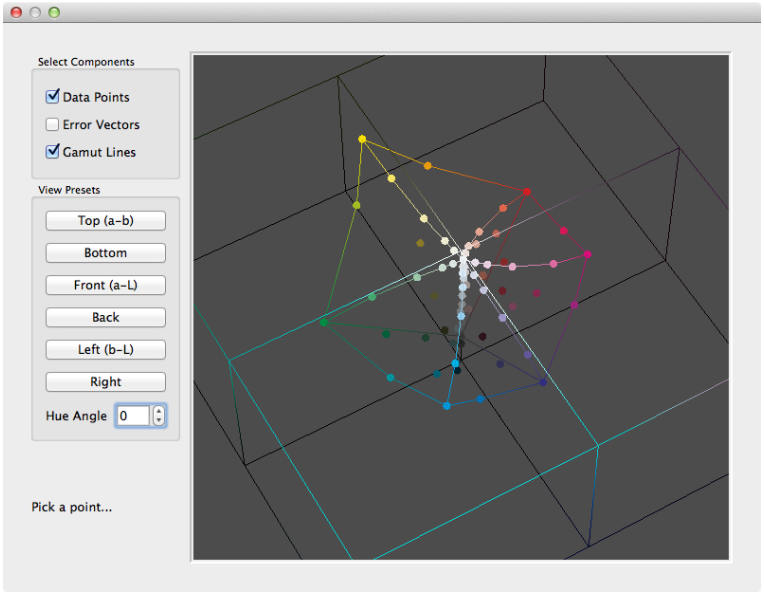
Save PDF-Report

With a click on this button a complete report on the analysis of the measured target will be saved as PDF file in the specified Job folder. This PDF document contains two or more pages, depending on the size of the target. It contains a summary similar to the contents of the label plus a table of all the measured patches, the target values and the deviations. This document is usually appended to the proof print also.



4.4 The 3D-Analysis

To open click icon “Visualization” and choose “3D Analysis”. This window shows a 3 dimensional representation of the measured target as a wire-frame.



Select visual elements from 3 check boxes for the representation of your data: Data Points (large for the aim value, small for the measured value), Error Vectors (red for „out of standard tolerance“, yellow for „out of custom tolerance“ and green for „within tolerances“) and Gamut lines.

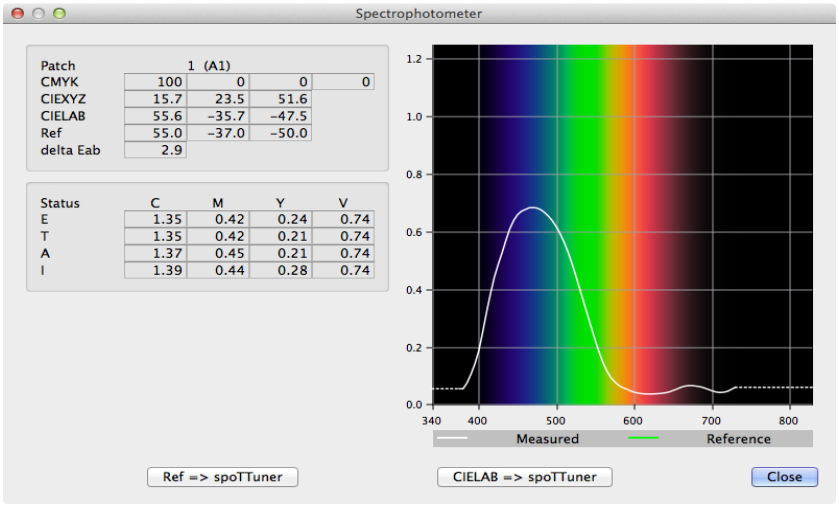
The „View-Presets“ buttons allow to define the view angle.
A click on one of the data points shows its device values (RGB, CMYK), its aim values (Ref.) and measured values (Cmp.) as well as the deviation (delta E) in the tolerance model that has been defined for the Job (ΔE_{ab}, ΔE_{94} graphics, ΔE_{94} textile, ΔE_{2000}, DIN 99 and CMC).

With click-and-drag the 3D view can be zoomed in and out by holding the <cmd> or ⌘-key and moving the mouse back and forth

4.5 Spectral curve

Click on the icon “Visualization” and “Spectral curve” in the measurement window to see the spectral curve window. Alternatively you can open the windows with the keys <cmd>+M on Mac and <Strg>+M on PC respectively.

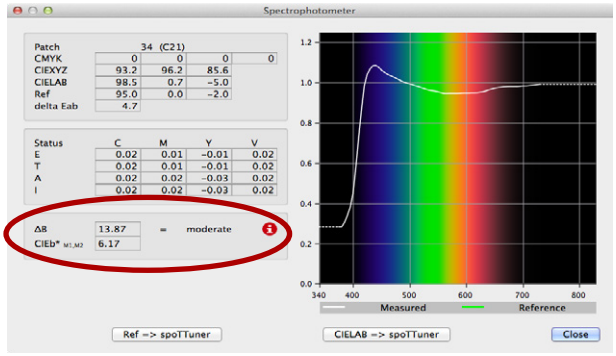
On the right side of the window the spectal curve is shown. The display area spans over the whole visible spectrum. The measured data for a patch is shown as a white curve. The dotted line represents the spectral areas that couldn’d be measured by the measure ment device.

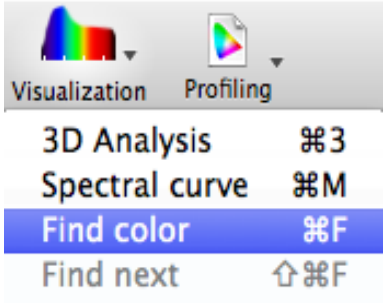


In the upper left table the patch number and other tags for that patch are shown.
The device color values (RGB, CMYK, etc.) and the color values CIEXYZ and CIELab are shown also.

The next table on the left shows the density values of the chosen patch sorted by the status and the applied color filter.

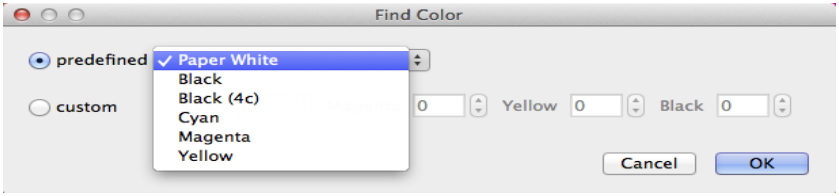
An additional information field opens below the density values table when a color patch is selected that contains the device values for white.
The color deviation ΔB shows how the white of a paper, measured with and without UV-filter (D65, 420nm, 45°/0° meausrement geometry), shifts.
The formula CIEb* (M1,M2) calculates the color deviation on the b axis based on the b values that have been measured with M1 and M2 measurement conditions.





4.6 Find Color

Open the “Find color” dialog via the icon “Visualization”. Search for a “predefined” color value from the pulldown menue or for a “custom” value.



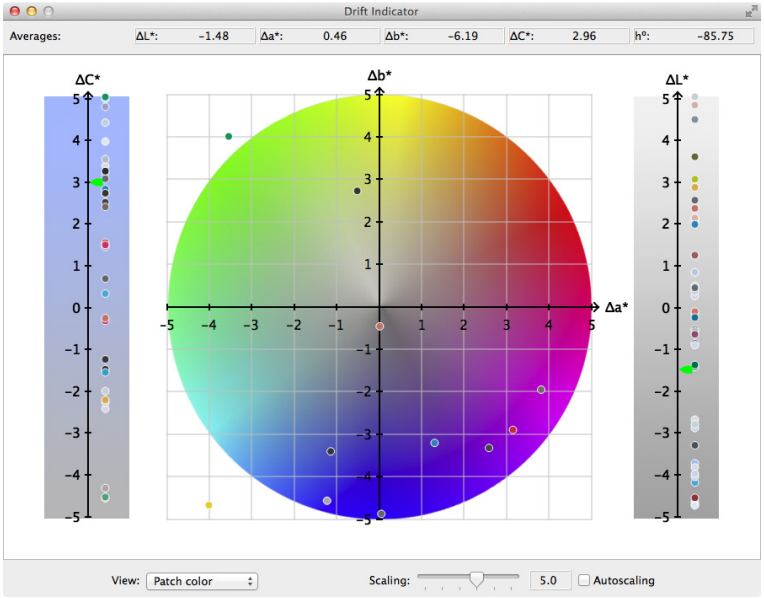
If a color value is found in the measurement window, the patch is marked with a white frame; if the color value you have searched for cannot be found this message appears:

4.7 Drift Indicator

With the Drift Indicator you can check relatively easy in what direction the color of the print has shifted.

This control medium is intended primarily for production printing rather than for proofing.

So you can use the Drift Indicator for example to notice how a printing system has changed from the time the profiling/calibration and what color cast can be expected in print.



The Drift Indicator is therefore suitable primarily for quality control/monitoring in the area of fine-art printing, photo printing and commercial printing due to the lack of defined control agents, such as the Ugra/Fogra Media Wedge, which is used as one of the standard means for control in the prepress and print run .

Open the Drift Indicator via the "Analyze" icon in the measurement window. Select the name that you have given the Drift Indicator when you created the job (default name: Drift Indicator). The Drift Indicator window opens and shows the behavior of the measured colors in relation to the selected reference.

***NOTE** :As a reference an ICC profile that was created for a specific printer inks - paper - combination or for a photo mini - lab should be used for example.*

Assessment of the displayed values

The arrows indicate the average trend of measured charts in Chroma C * and luminance L *. The dot indicates the color deviation in an a* b* diagram. The closer the "cloud" of individual measurements and thus the average marks are located in the center, or zero point, the more precise the specifications given by the reference are met.

The gray lines in the chroma C * and the luminance L * diagram and the gray circle in the a* b* chart in the center indicate the tolerance limits, which must be defined by the user in the job before using the Drift Indicator.
The pointers and the highlighted, slightly fatter point (these represent the calculated average value) are highlighted in color.
Are pointers and point green, then the average value is within the tolerance limits.
If, however, one of the pointers or the point displayed in red, then the tolerance value for this range is exceeded.

It's up to the user how to proceed from this point on, whether its returning to calibrate/profiling the system or other controlling changes.

Chapter 5

basICColor certify (QC print)

5.basICColor Certify (QC print)

Certify (QC print) is the *basICColor catch* module for quality check and process control of printing systems.
It allows to verify compliance with printing standards like ISO 12647-x. *Certify (QC print*) checks primaries, dot gain and CMYK spread of CMYK output devices. It can be used to implement standardized printing according to ProcessStandard Offset (PSO).

basICColor catch comes with a number of standard-compliant Job Templates and Jobs that can be used to check printing systems.

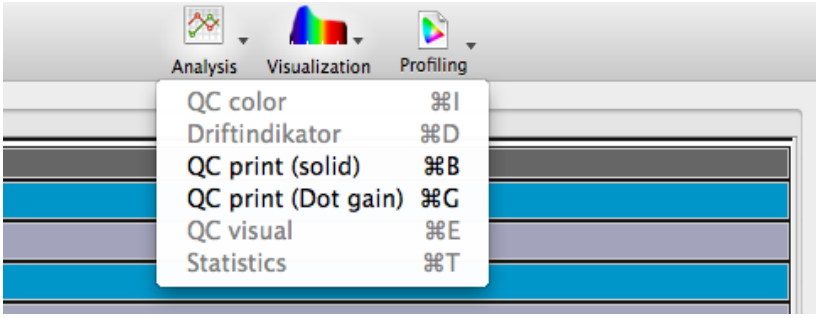
Job selection via the wizard

Please refer to page 15

Select job in expert mode

Please refer to chapter 7 and 8 on how to create, edit and use your own QC print jobs.

After measuring, the target it is directly evaluated and a new window opens.
Alternatively the evaluation windows “QC print (solid)“ and “QC print (dot gain) “ can be opened in the measurement window via the icon “Analysis “ .

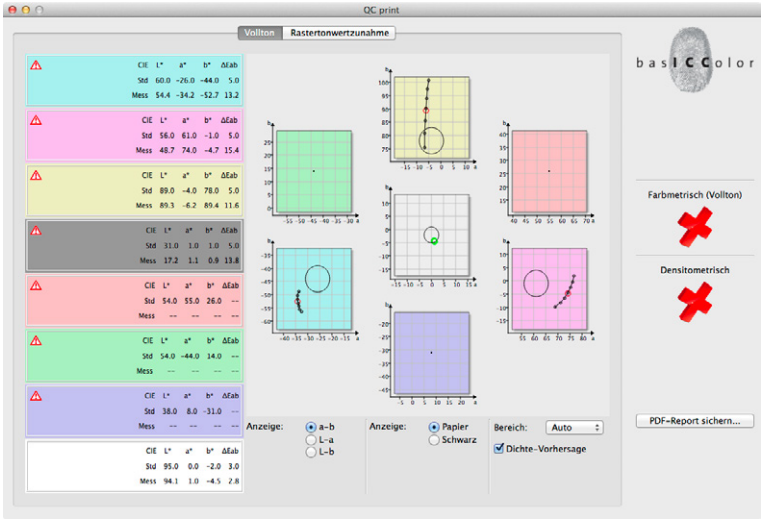


This way you can, for example, open the evaluation if a previously performed measurement is reloaded or one has imported a measurement .

Once the QC print window is open you can toggle between the two views “solid “ and “dot gain” to make a choice without having to re-select each mode seperately.

5.1 Solid Color

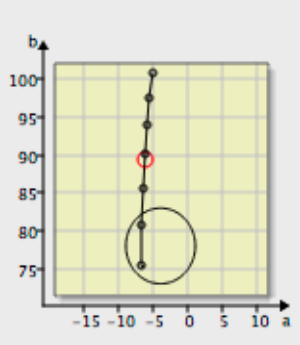
This section shows three main areas. In the right area there are symbols that show if the criteria of the job have been met or not.



In the left area the single measurement values (meas) are listed in comparison to the reference values of the standard (std).

If a measurement value exceeds the standard tolerances the respective field is marked with a red exclamation mark.

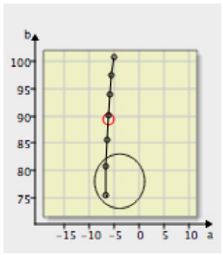
The middle area of the window displays visual results of the measurements. Every single primary and secondary color is represented by an individual diagram. A diagram in the center of the graphic toggles between the values for the paper white and the black ink.



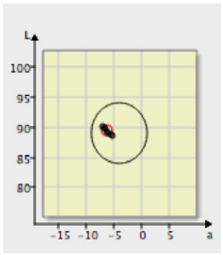
When tolerances have been set for primary and/or secondary colors, the diagram shows a circle which defines the tolerance. This way it is easy to see if a value meets the standard.

View

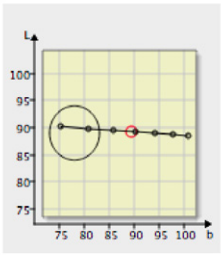
Below the graphics you find selection menus for changing the „View“ on the diagrams in order to see the 3-dimensional color space properly in a 2-dimensional graph. You can switch between: a-b, L-a or L-b views.



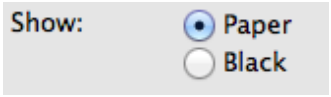
a-b Ansicht



L-a Ansicht

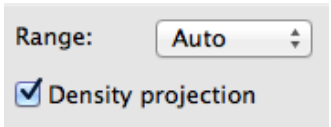


L-b Ansicht



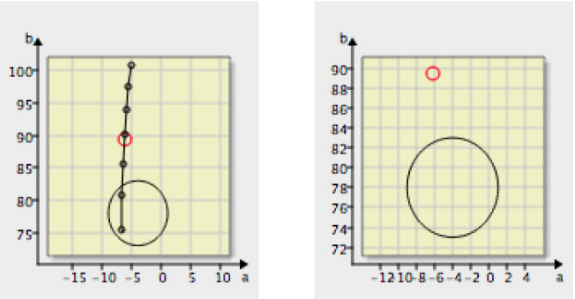
The next choice enables switching the chart display for the measured values of the paper to the printing black ink.

With „Range“ you can adjust the preview of the tolerance range in the diagrams. „Auto“ displays the tolerances within the job in the diagram. You can also adjust the tolerance range manually : DeltaE 10, 20 or 30. We recommend to keep the “Auto” setting.



Density Projection

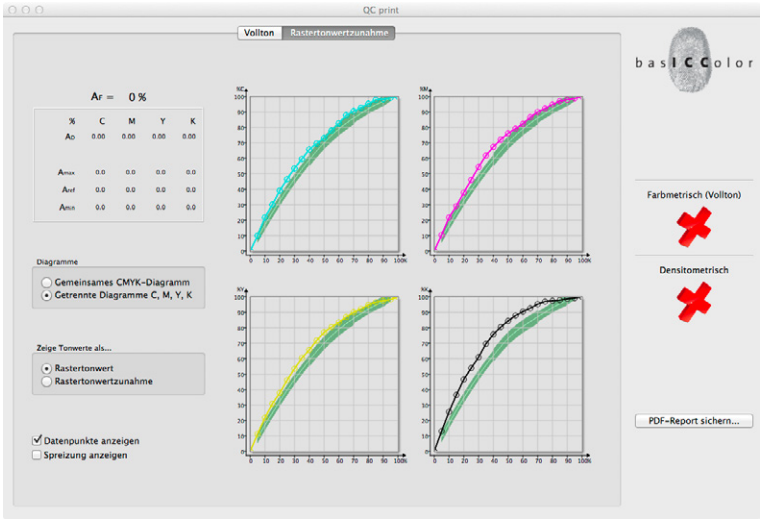
When setting up a printing press for standard printing conditions, changes in ink density influence the colorimetric match of the printed color.



By choosing the option „Density projection“ *basICColor certify (QCprint)* calculates a prediction of colorimetric changes and shows the results as curves in the diagrams. This enables the printer to change the densities of the primary colors on the press for an accurate match. Mouse-over show the densities at the respective points on the curve.

5.2 Dot Gain

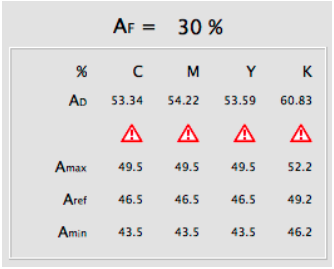
The tab "QC print dot gain"shows dot gain and the CMY spread.
On the right side you find the symbols that indicate if the standards have been met or not.



Dot gains

On the left side the numerical values for the dot gains in the different tonal regions are shown.
You can select the percentage you want to see (40% in our screenshot) with a click on the respective point in one of the dot gain curves in the graphs on the right side of the „Results: QC quality" window.

The header shows the selected percentage (A_F).
The first line of the list shows the measured dot value ($A_{D)}$.
The next line shows exclamation marks for each channel that exceeds the dot gain tolerances.
The next three lines show the tolerances for each color:
Maximal allowed area coverage (A_{max})
Standard reference area coverage (A_{ref})
Minimal allowed area coverage (A_{min}).



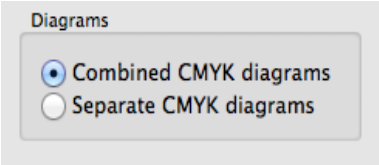
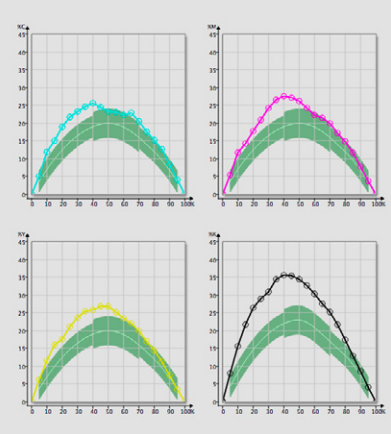
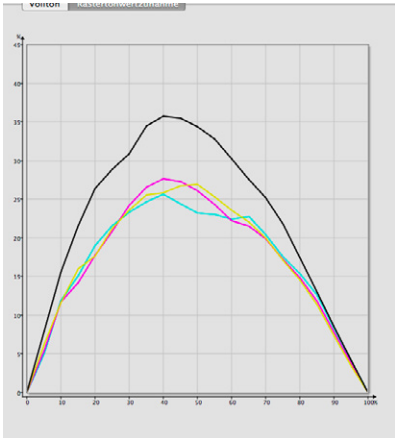


Diagram options

In the area <Diagrams> the middle display of the diagram can be changed . Thus, the curves of the individual curves are displayed in a separate diagram or together in a single diagram .



Display of the single tone value curves



Display of tone value curves in a combined diagram

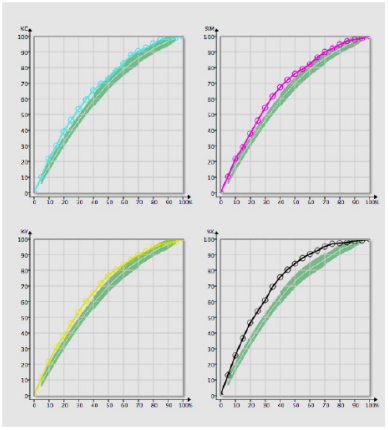
Diagram display

In the right area of the window you see the diagrams for all 4 primaries. Depending on the „Diagrams“ settings on the left each primary has its own diagram or all primaries are shown in one combined diagram.

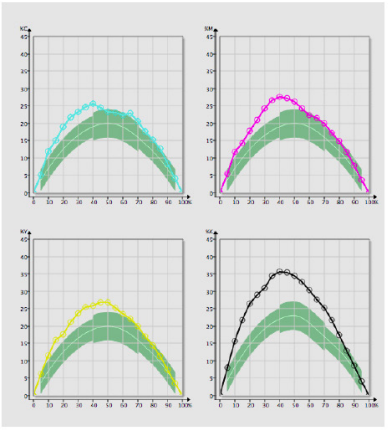
The thin line depicts the optimal tone curve, the green area around it shows the allowed tolerances for the dot gains.

Show tonal values as...

In this section you can change the view for the diagrams from „dot value“ to „dot gain“



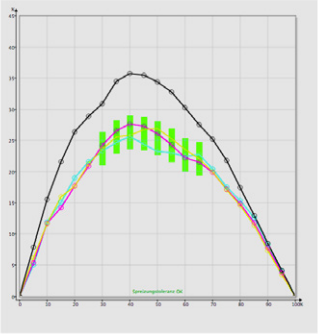
dot value display



dot gain display

Show data points

By selecting „show data points“ all the measured data are projected onto the curves in the diagrams. If the box is not checked only the curves are shown in the diagrams.



Show spread range

As a second choice the option “Show spread range“ is available. In this option a graphic is blend over the curves and indicates whether the in the job defined or default maximum spread between the three primary colors of cyan , magenta and yellow is within the specified tolerances .

If the tolerances are met, the graphical element is displayed in green.

If the tolerances are exceeded the graphic element in the affected tone value area is red.

Save PDF Report as...

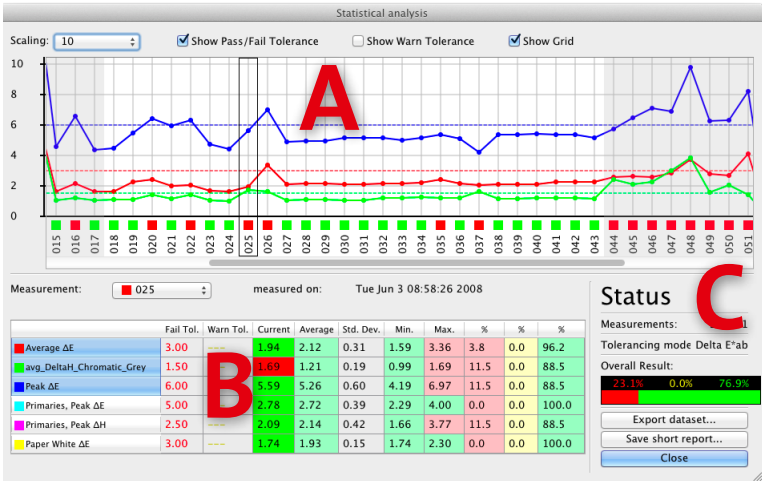
By clicking on the <Save PDF Report as...> button you save a detailed report of the current *basICColor certify (QC print)* Job in the Job folder. The report also functions as a protocol for the certification process of a printing system.

Chapter 6

basICColor statistic

6. basICColor Catch Statistic - statistic analisys

Besides the evaluation of a single print sheet *basICColor catch* offers the option of a statistical analysis. The pass/fail-assessments within the job folder will be displayed in form of fever curves. The Statistic window can be opened directly from the *basICColor* "Jobmanager" window by a click on the <Statistics>-button or from the "Measurement" window by selecting "Analysis -> Statistics" .



	Fail Tol.	Warn Tol.	Current	Average	Std. Dev.	Min.	Max.	%	%	%
Average ΔE	3.00	---	1.94	2.12	0.31	1.59	3.36	3.8	0.0	96.2
avg_DeltaH_Chromatic_Grey	1.50	---	1.69	1.21	0.19	0.99	1.69	11.5	0.0	88.5
Peak ΔE	6.00	---	5.59	5.26	0.60	4.19	6.97	11.5	0.0	88.5
Primaries, Peak ΔE	5.00	---	2.78	2.72	0.39	2.29	4.00	0.0	0.0	100.0
Primaries, Peak ΔH	2.50	---	2.09	2.14	0.42	1.66	3.77	11.5	0.0	88.5
Paper White ΔE	3.00	---	1.74	1.93	0.15	1.74	2.30	0.0	0.0	100.0

The window is separated into three single areas:

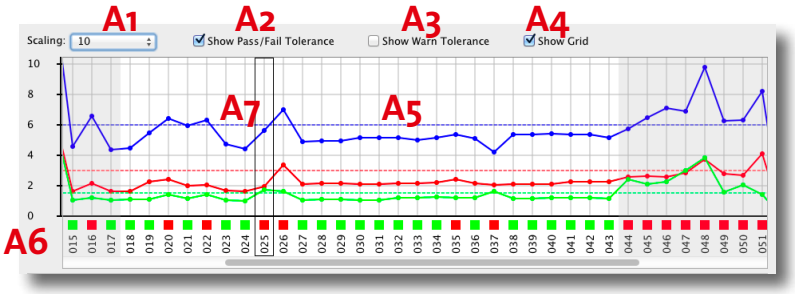
A) The fever curves

B) Numeric section

C) Status review and data export.

6.1 Fever curves

The graphic can be customized for the visualization of the data.



A1 Scaling:

The graphics data range can be switched between an absolute (1, 2, 5, 10, 20) and a relative (Auto 50, Auto 100, Auto 250) presentation of the values. In the absolute presentation the the calculated Δ-values are displayed. The tolerance lines are displayed in the defined values. The relative presentation shows the tolerance values are scaled relatively to the 100%-line. For up to three curves the absolute presentation is the most informative presentation in most cases. Four or more curves are best displayed in the relative presentation setting.

A2 Fading in/out the Pass/Fail-tolerances (standard toler ances)

A3 Fading in/out the warning tolerances (custom tolerances)

A4 Fading in/out of the background grid.

A5 Curves area:

The grafic will show those curves that have been selected in section B). Within the graphic you can mark the area that will calculate the status. Use the common utilities for selection.

- click + drag — Select area
- Shift + click — Select area
- Click — selecting a single measurement
- ctrl + click — selecting multiple single measurements
- crtl + A — select all

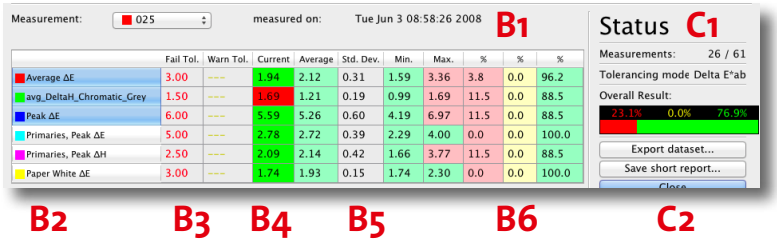
A6 Measurement numbers

This area shows the numbers of the single measurements in the job folder. The green/red (possibly yellow) indicator show the pass/fail status of each measurement.

A7 current measurement

By clicking on a measurement number a single measurement can be selected. The results are displayed in section B) and the average, minimum and maximum values can be compared to those of the validation area.

6.2 Numeric validation area, status and data export



B1 Display of the current single measurement values

Alternatively to a click on a measurement point in the chart a single measurement can be selected with the pull-down-menu. The measurement date and time of the data file is shown to its right.

B2 Display of the single validation criteria of the job and the selection of the validation graphic.

For the selection use the common shortcuts.

- click + drag — Select area
- Shift + click — Select area
- Click — selecting a single measurement
- ctrl + click — selecting multiple single measurements
- crtl + A — select all

B3 Tolerances of the current job.

B4 Values of the marked actual single measurement.

B5 Average, standard deviation, min./max. value of the measurement point marked in the chart.

B6 percental coding

These three columns show (in percentage) which job criteria are matched.

Red	The standard criteria have been exceeded
Yellow	The custom criteria have been exceeded
Green	Standard and custom criteria are in range

C1 Status

Here you can see how many measurements of the graphic are marked. For those measurements the percental coding will be calculated. The percental partitioning will be shown by the red, green and yellow status in a colored bar.

C2 Export dataset

"Export dataset..." saves the current view of the statistic evaluation including all the data.

The button "Save short report..." creates a short and simple report as a graphical image.

Chapter 7

Advanced Settings

7. Advanced Settings

Experienced users can create their own individual Templates and Jobs.
This is especially useful if you have recurring measure tasks based on defined targets with a specific instrument.

Explanation of symbols

basICColor catch offers two basic options to make information mandatory or not.
You will come across these options repeatedly when creating a job.

Mandatory fields

An asterisk marks, if the option requires an entry to complete the job parameters or not .
A red asterisk (*) means that an entry is mandatory to complete the job creation.
By clicking the asterisk you can switch the entry to a gray asterisk. This means that the user can indeed make a selection , but this is not mandatory .

Blocking Entries and Selections

With the lock you make entries changeable (open lock) or unchangeable (locked). A mouse-click toggles the status of these elements.

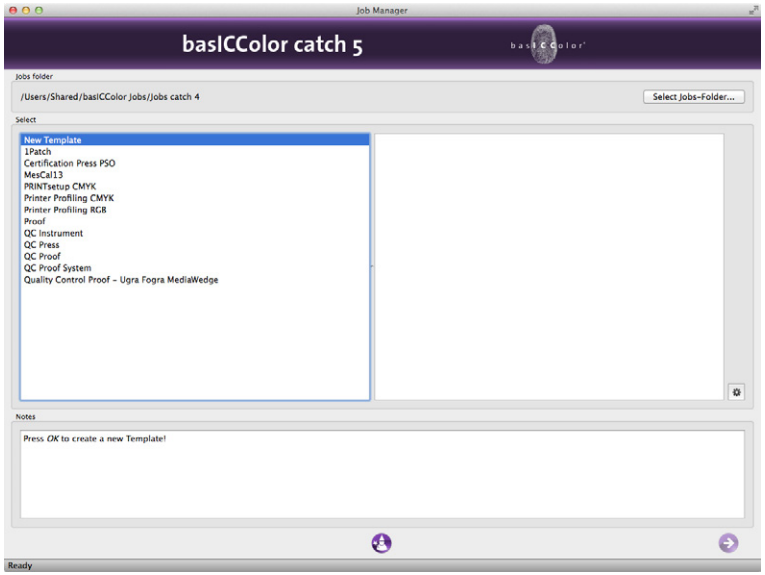
We recommend to make required information mandatory (e.g. measurement instrument). Other information like „notes“ can be marked as optional.

We advise to lock information you do not wish to alter.

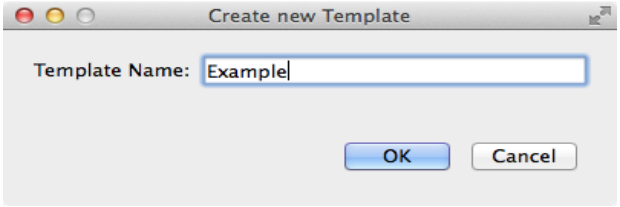
NOTE: mandatory entries must be completed when defining a Job, or the Job will not be executable.

7.1 Creating Your Own Job Templates

To create a new job template, go to the Job Manager of *basICColor catch*. In the left column of the *basICColor catch* job manager choose first entry " New Template " and open it with a double click



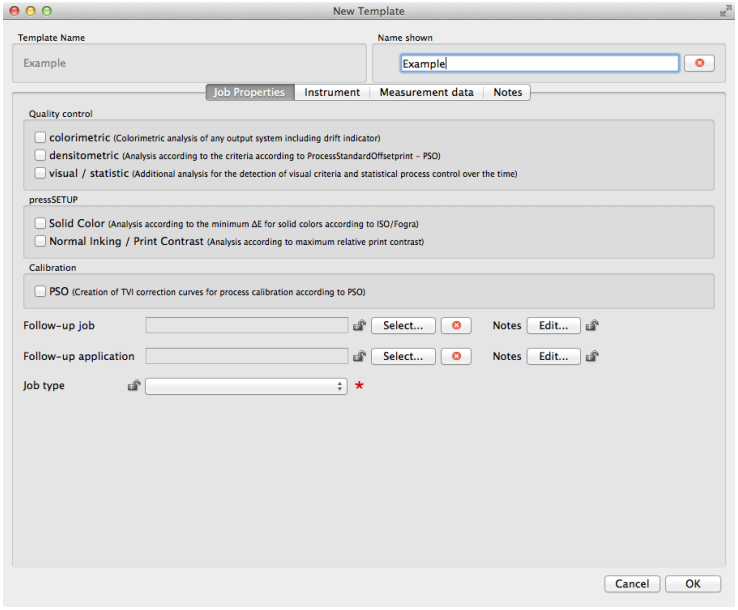
Enter a job name in the following dialog and click <OK>.



This will open the main window for the job definition. Here, the optional evaluation criteria for the additional modules *basICColor control, certify, statistic* , *calibrate* and some additional options are displayed.
The window is divided into two areas. In the upper part shows the name of the template. Below you can find a row of tabs, *basIC-Color catch* opens on the “Job properties” tab by default.

7.2 Job properties tab

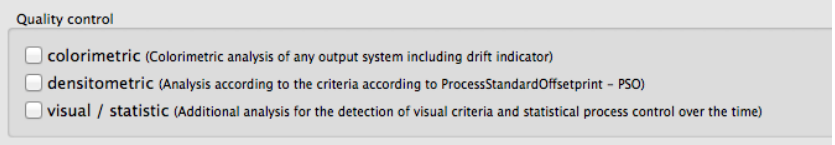
The tab “Job properties“ determines what kind of job is created, which additional modules of *basICColor catch* will be used and in what way the measurement data is used for further processing.



This way you can achieve a relatively high automation.
The user interface offers checkboxes for activation/deactivation of the individual options and modules, as well as check boxes to select predefined functions and fields or entering your own data /values.

Quality control

These checkboxes determine what criteria is used for quality *control*.



colorimetric

For this option a license for the additional module *basICColor control* is required . The evaluation of the measured values are colorimetric and in particular for quality control by means of control strips, like the Ugra / Fogra media wedge , and the finding of a color drift in production printing systems. By clicking the checkbock the tab “QC color” appears

densitometric

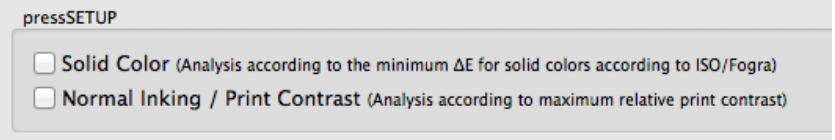
A license for the additional module *basICColor certify* is required if a job should be evaluated densitometric. This kind of job is suitable for the evaluation according to the criteria of the process standard offset printing (PSO) and thus for the establishment of a standardized printing system. By clicking the checkbock the tab “QC print” appears.

visual / statistic

basICColor QC visual is part of the statistics module and contains some additional (free definable) options for a job evaluation of *basICColor catch* jobs by visual criteria. A *basICColor* statistics license is needed for this module. By clicking the checkbock the tab “QC visual” appears.

press Setup

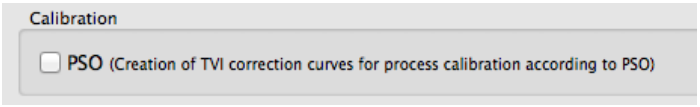
In this area can be determined whether an evaluation of the measured data for the solid colors and/or the normal coloring/ print contrast should be carried out.



These criteria are primarily used in setting up production printers (eg in offset printing) .
For more information, please refer to the press Setup guide .

Calibration

Enable this option to create ISO compliant dot gain correction curves onRIP systems for example.



This option requires the additional module *basICColor calibrate*.
For more information on the *calibrate* module, please refer to the seperate manual

Follow-up job

basICColor catch offers the possibility to start a follow-up job after a job was completed, or a target has been measured respectively.

This way, individual measurement jobs that include different targets can be linked.
For example, a job is set to determine the maximum ink application of the primary colors of a printing system .
The next target measured is then used for determining the total ink coverage.

Follow-up application

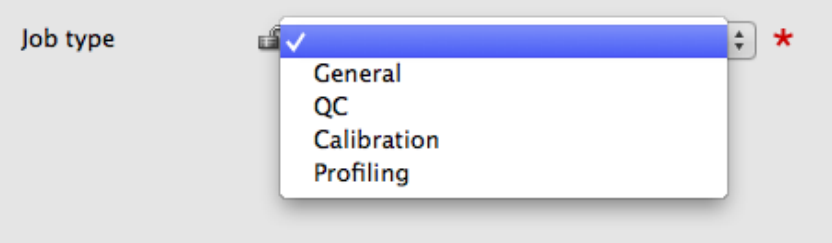
In some cases it is sensible to transfer the measured data to another application or further process.

An example of this would be the creation of ICC color profiles . The measurement of the profiling targets is done in *basICColor catch* and the profile is created with the *catch* measurement data in *basICColor* print.

Job Type

In order to make the job template selectable in the *basICColor catch* wizard it has to be placed into a job type category.

Currently *basICColor catch* has four job type categories.



General

If a job template does not fit any of the other categories, then you should choose this job type.

QC

For Job templates serve to quality assurance , it is recommended they are classified in this category.

CALIBRATION

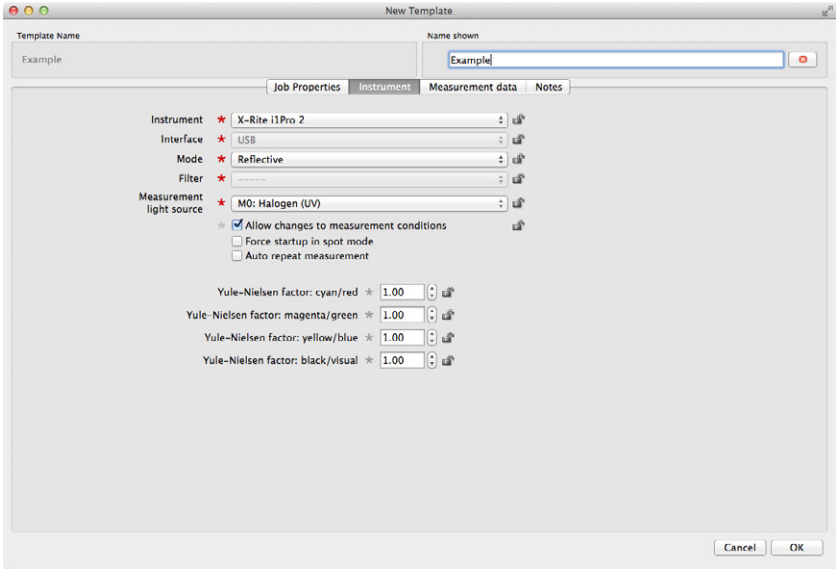
For calibration of printing systems, RIPs, Photo mini-labs choose this category .

PROFILING

If the job template is for measuring a profile target, then this category should be chosen

7.3 Instrument tab

basICColor catch supports a variety of measurement devices from various manufacturers . On this tab all settings regarding the measurement device are made.



Instrument

The first entry to make in this tab is the measurement instrument. Depending on the instrument model the selection fields „Mode“ and „Interface“ will be active or not

Interface

Instruments with a USB interface will be set to USB automatically. For instruments with a serial interface please select the port manually. The selection box will show all available ports.

Mode

Depending on the instrument model the settings for „Mode“ may differ. For example the X-Rite EyeOne Pro lets you select „Reflective“ or „Emissive“ measure modes, others may offer „Reflective“ only or even allow to select an aperture size.

Filter

Some instruments have fixed filters on others you can assemble various filters on the optics.

To document the measurement condition, select in this pulldown menu whether the instrument is operated with or without filter

Measurment light source

Similar to the filters some instruments allow to switch internally between standardized light sources or deliver data for all measuring conditions .

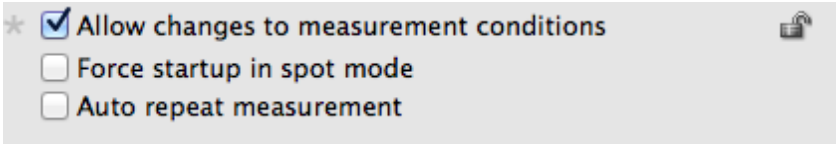
Define here what measurement condition is used as the standard in the job template.

In the measuring window of *basICColor catch* you can always toggle between the different measurement light sources after completing a measurement.

Allow changes to measurement condition

With this option you can specify whether you allow to toggle between the different measurement light sources or not.

Blocking the setting makes sense, for example, if measurements must be carried out under a certain measuring light source (eg during proofing) .



Force startup in spot mode

Some instruments allow switching between stripe and spot mode. *basICColor catch* usually uses the strip mode, which allows faster measuring of charts .

In some cases, or on some measurement charts (eg ColorChecker Classic DC) measurement fields should be measured individually or is the measurement chart is not designed for the strip mode .

Click this checkbox to enable/disable the spot mode.

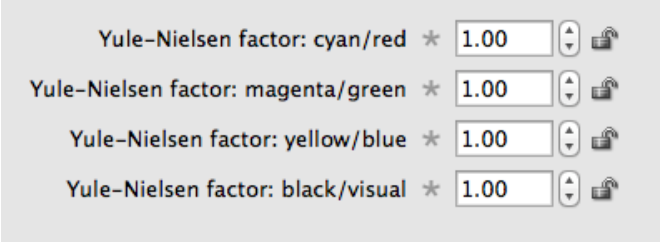
Auto Repeat measurement

Some instruments switch to different measurement light conditions during the measurement automatically. A filter must be applied before measurements can be made under a specific measuring light condition .

To continue the measurement process automatically after switching, or repeat a measurement , please activate this option .

Yule-Nielsen factor

The Yule-Nielsen factor can be used to match two different measurement devices, e.g. a densitometer and a spectrophotometer.

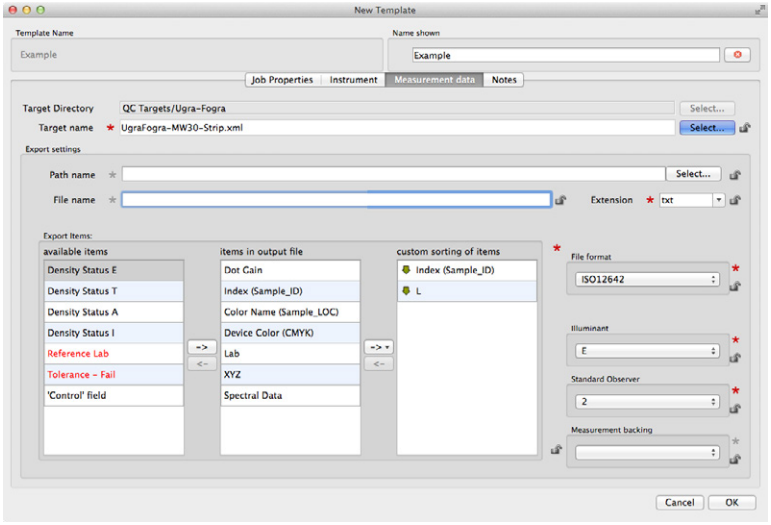


Only densitometric measurement data will be adjusted, not colorimetric data.
Densitometric data are used in the modules „pro“ and „certify“for export to file or calculating dot gain and percentual area coverage.

Increasing the Yule-Nielsen factor will correct the value of the percentual area coverage to a lower value. Decreasing the Yule-Nielsen factor will correct the value of the percentual area coverage to a higher value.

7.4 Measurement data tab

In the tab „Measurement data“ you set the target to be measured, the path for saving the data, the export settings and parameters for the calculation of the colorimetric data from spectral remission values.



Target directory

Here you can see the directory where the individual variants of a target are stored.

Target name

Select the target here. Click the <Select...> button and navigate to the desired target in the folder „Targetdefinitions“ in your *basICColor catch* folder.

Settings for export

Establish your export settings for your measurement data in these fields.

Path name

Under " Path name" you select the directory where the measured data is to be stored. If nothing is entered, a directory with the name of the job is automatically created in the job list of *basICColor* catch .

Alternatively, you can route the export of the measurement data in an existing directory. Click < Select ... > to navigate to the wanted directory.

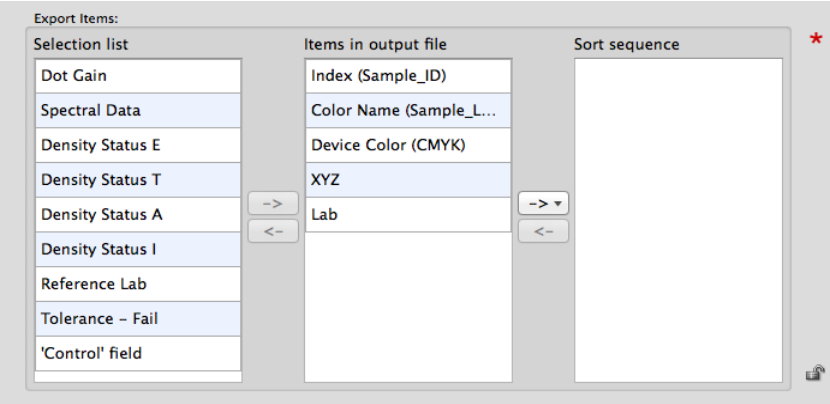
File name

The name of the export data file can be defined in the field „File name". The field „Extensions" offers a list of extensions for the export data file.

Export items

In *basICColor catch* you can define the type of measurement data you want to export.

It depends on the workflow what data you need. In most cases it's not required to export all values.



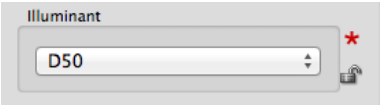
Most applications on the market require a minimum of 3 values in the export data file. These are:

- Index (Sample_ID)
- Device color (CMYK, RGB)
- Lab

The other export values are (in most cases) optional.

File format

Choose the file format in which the data are to be stored .
The standard is " ISO12646 " and can be processed by most applications .



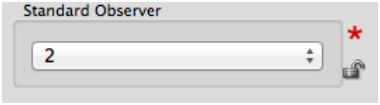
Illuminant

The selection under “illuminant” affects the calculation of the XYZ and Lab values in the saved measurement data. D50 is the standard ICC color management. Other industries use D65. For special applications a change in the type of light useful .

Lab values are as calculated from the spectral data taking into account the illuminant.

A modification of the basic setting should only be performed by users who require explicit XYZ and/or Lab measurement data for different illuminants .

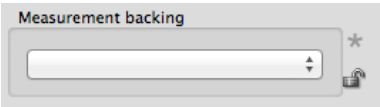
For normal ICC workflow , we recommend the basic setting (D50).



Standard Observer

The standard observer in the ICC-System is 2°. Other industries (e.g. automotive) use colorimetric data based on a 10° standard observer. *basICColor catch* offer the possibility to change the standard observer between 2° and 10°.

basICColor recommends to use the default settings (D50, 2°) for a standard ICC-workflow.



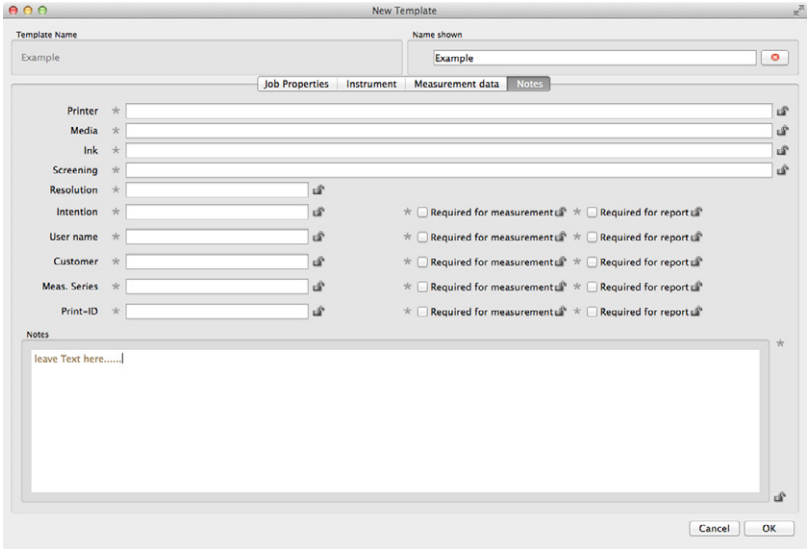
Measurement backing

The last option in this tab is informational only. The choice of the Measurement backing does not affect the calculation of the measurement data. This information is stored in the meta data of the measurement file.

7.5 Notes tab

The „Notes“ tab offers several options for the documentation of the current Job.

The entries in the upper area will be entered in the PDF-report and the label.

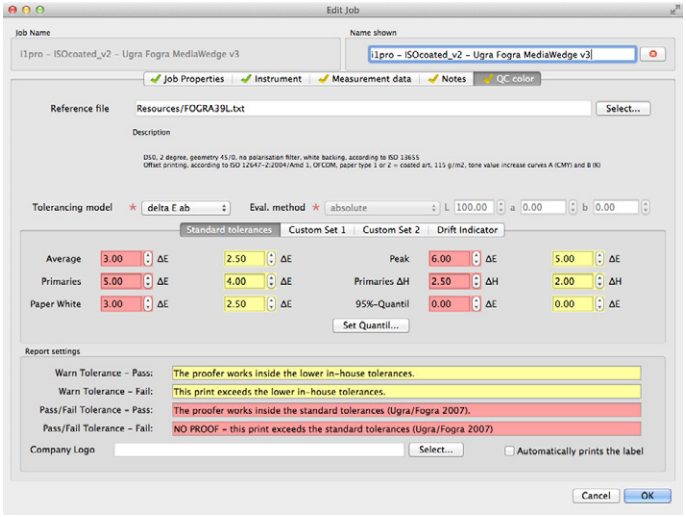


With the checkboxes at the end of the lines of “Intention”, „User name“, „Customer“ and “Print ID” you can choose which fields are required for the measurement and/or the report. *basiCColor catch* will ask for the information during the measuring process in a seperate window. Only then the label will be printed and the PDF-report created.

Leave a short summary in the “Notice” field to see it in the job manager when selecting a job.

7.6 QC color tab

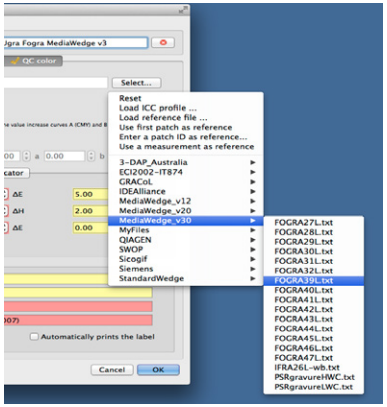
The tab “QC color” is only visible and editable if the checkbox “colorimetric” in the “Job properties” tab has been clicked. In addition, a license *basICColor control* is needed.



The *basICColor control (QC color)* module lets you compare your measurement data with different criteria for all kinds of quality control tasks.

basICColor control (QC color) offers a list of predefined Templates and Jobs for the most common quality standards in pre-press like the Ugra/FOGRA MediaWedge CMYK. Others can easily be added by the user.

This manual is not entering into any criteria and tolerances of standards. Please refer to the relevant documentation for standards like the „MediaStandard Print“ .



Reference file

In this field you select the reference data for comparing the measured data with the standard.

Clicking the <Select...> button opens up a sub-menu with different options:

- **Reset**
  clears the entry in the „Reference file“ field

- **Load ICC profile...**
  lets you select an ICC-profile for calculating the reference values. This option is especially helpful if you do not have an ASCII file containing the exact reference values. It will be slightly less exact than fixed values because *basICColor catch* has to interpolate the data; accuracy depends on the quality of the profile

- **Load reference file...**
  allows you to load pre-defined reference files for most international printing standards that come with *basICColor catch all*. They are stored in the Jobs folder.

- **Use first patch as reference...**
  allows you to compare a series of readings with the first measured patch. This option can be used for checking the density uniformity of printing presses across a sheet, quality control for the manufacturing of plastic chips and many other purposes.

- **Enter a patch ID as reference...**
  This is a variation of „Use first patch as reference...“ and allows to enter a specific patch ID of the target as a reference. This method can be used for checking the uniformity of a monitor. For example the center patch of a 3x3 or a 5x5 target could function as the reference. Once the target is fully measued it will use that center patch as reference.

- **MyFiles**
  collects all previously selected reference files or profiles in one sub-menu and thus allows rapid access to frequently used references.

The *“Discription”* text below the reference file shows the header information of the reference file and thus allows to check the contents.

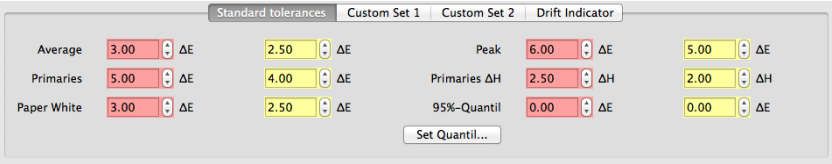
Tolerancing model

This option determines which tolerancing model will be used to calculate color differences.

Most of the common standards still use the classical „delta E_{ab}“ (also called delta E_{76}).

Toleranc tabs

This area offers 4 tabs for defining 4 different sets of tolerances. Please refer to a relevant source to set up the correct standard values.



basICColor control (QC color) offers two thresholds for each criterion, thus you can distinguish between standard tolerances and your own or your customer´s narrower tolerances.

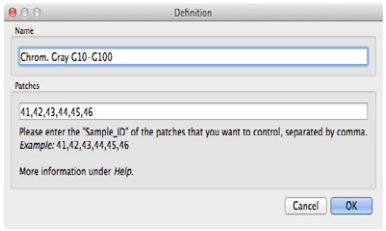
The red field is used for the standard value. When your measurement exceeds this reference value then this criterion will be marked as „failed“ in the report.

The yellow field can be used for narrower tolerances. The report shows the exceeding of the two tolerances with a dot in their respective color.

If you leave a field empty (value 0.00), this criterion will not be checked and will be omitted in the report.

Standard tolerances tab

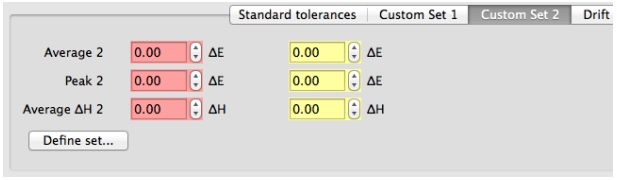
This tab defines the criteria for a proof print. The 95%-Quantil is only required for the certification of a proofing system (RIP, printer, ink and paper) e.g. by institutions like Fogra or the national printers associations.



Custom Set 1 and 2 tabs

If you want to define your own subset of colors to be checked you can define those under the tabs „Custom Set 1“ and „Custom Set 2“ by clicking the <Define set...> button and entering the relevant patch-ID Numbers from the target definition.
“Custom Set 1“ is provided for checking the gray axis, so that only the corresponding gray fields should be included in the list .

“Custom Fields 2“ is kept open. Here you can create from any color a field list.



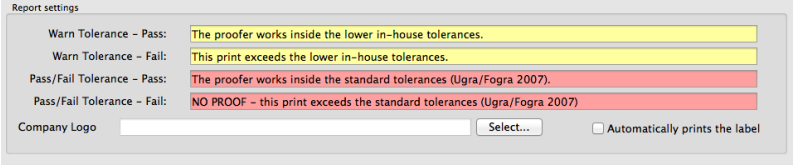
The Drift Indicator tab

The Drift Indicator visualizes color shifts of the defined patches. If you leave the „Patches“ field blank all measured patches will be displayed in the Drift Indicator.

Report settings

- **Messages**

  In this area you can define the messages for the reports. There are two messages for each threshold – a pass and a fail message.



- **Company Logo**

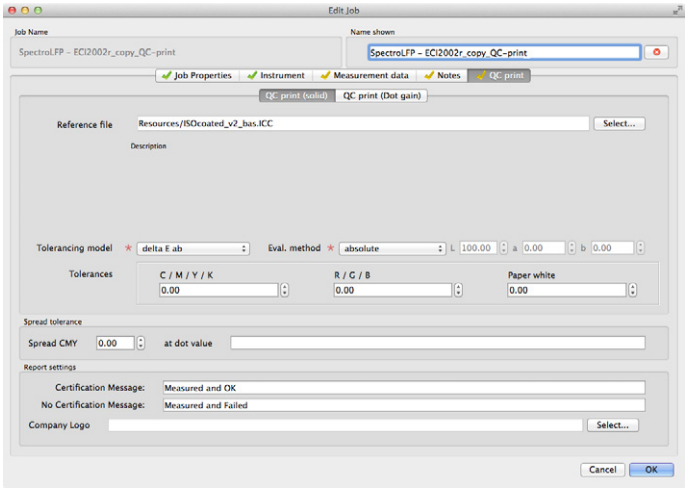
  You can add an optional image (e.g. the company logo) to the printed label and the PDF-report (JPEG files only).

- **Automatically print label**

  These two check-boxes allow to define if a label will be printed and/or a PDF-report will be saved automatically after measuring and analysing the target.

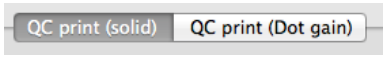
7.7 QC print tab

The tab “QC print” is only visible and editable in the job manager if you hold a license *basICColor certify* and the checkbox “densitometric” in the “Job properties” tab has been ticked.



The *certify (QC print)* module is designed for quality control and certification of print processes.

The critera and tolerances are defined by international standard organizations like the ISO (e.g. ISO 12647). For more information of these standards, please refer to a relevant source.



The upper area of the *certify* tab has two tabs for the two different kinds of analysis – colorimetric and desitometric.

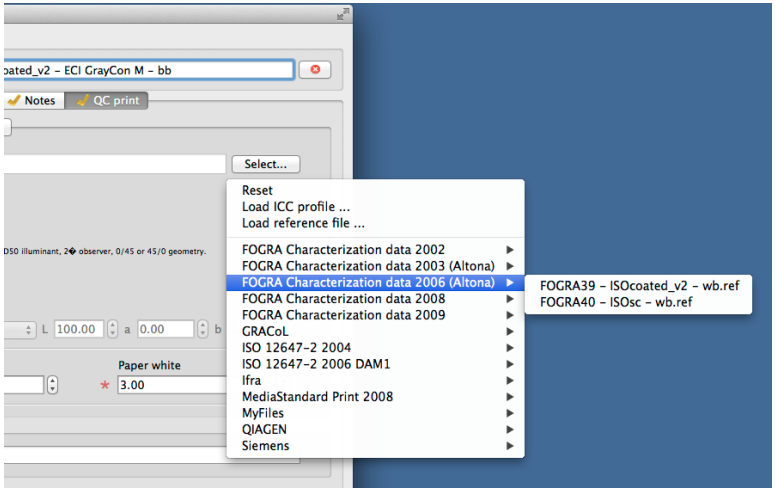
7.7.1 QC print (Solid)

The tolerances and references for spot colors are defined in this window.

.

Reference file

lets you define the colorimetric reference by entering a path and file name or by clicking the <Select...> button, which opens a sub-menu with different options:



- **Reset**
  clears the entry in the „Reference file“ field

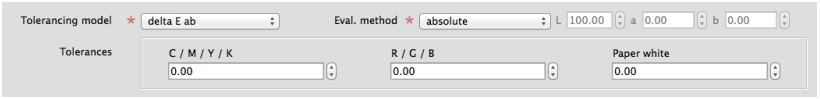
- **Load ICC profile ...**
  lets you select an ICC-profile for calculating the reference values. This option is especially helpful if you do not have an ISO-compliant file containing the exact reference values. It will be slightly less exact than fixed values because *basICColor catch* must interpolate the data; accuracy depends upon the quality of the profile.

- **Load reference file ...**
  allows to load pre-defined reference files for most international printing standards that come with *basICColor catch*.
  They are stored in the Jobs folder –> ReferenceFiles–>certify–>colorimetric.

- **MyFiles**
  collects all previously selected reference files or profiles in one sub-menu and therefor allows rapid access to frequently used references.

Tolerancing model

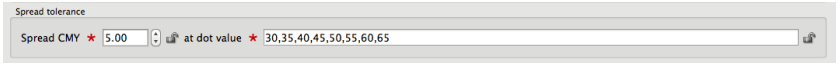
This option determines which tolerancing model will be used to calculate the color differences, independently from the *control* tab. Most of the common standards use the „delta E_{ab}“ model.



Tolerances

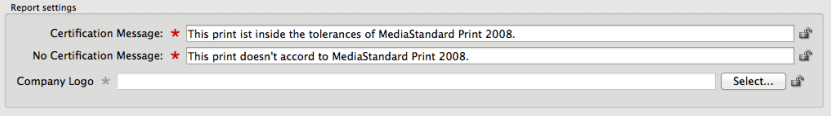
In this section you define the maximum tolerances for the primary process colors (C/M/Y/K), the secondary colors (R/G/B) and the paper white, blank (0.00) entries will be ignored in the analysis.

- **Spread CMY**
  here you select the maximum spread between the primary colors Cyan, Magenta and Yellow by entering a percentage.



- **at Dot value**
  lets you enter any number of dot values at which the spread is to be checked. The dot values need to be entered comma-separated, e.g. „30,35,40,45,50,55,60,65“

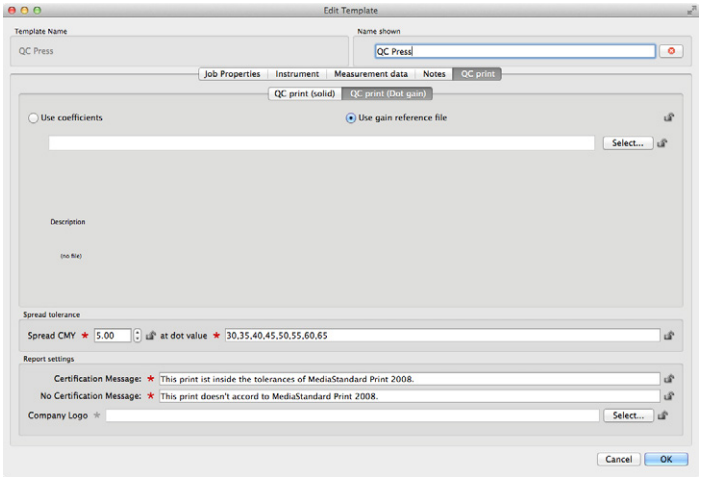
Report settings



- **Messages**
  In this area you can define the messages for the reports. There are two messages – a pass and a fail message.
- **Company Logo**
  You can add an optional image (e.g. the company logo) to the PDF-report (JPEG files only).

7.7.2 QC print (dot gain)

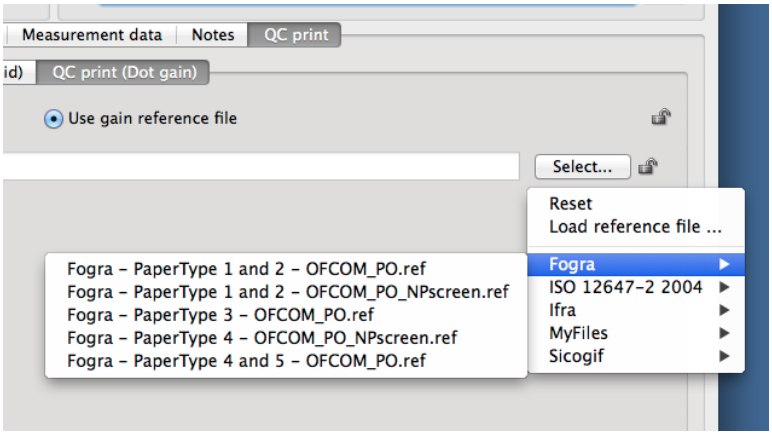
In this tab the tolerances for the dot gain and their allowable spreads are defined .



Select whether the evaluation should be done with use of a predefined reference file or with coefficients for the dot gain curve.

Use gain reference file

In addition to a wide selection of existing reference files you can also choose an external reference file by clicking on the button < select ... >.



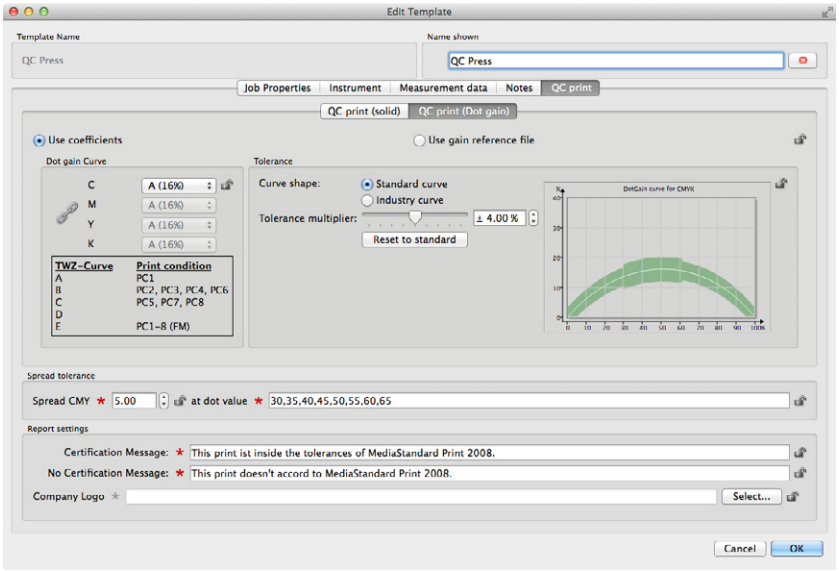
• ***Load reference File ...***
Select a measurement as reference.

• ***Reference lists***
basICColor certify supplies a wide range of current standard references for dot gain curves .
To determine which reference lends itself to the respective workflow, refer to the respective industry standard or norm .

• My files
collects all previously selected reference files or profiles in one sub-menu and therefor allows rapid access to frequently used references.

Use coefficient

In this area, the dot gain can be selected from a shortlist of standardized dot gains for different paper types .



By clicking the chain symbol you can decide whether the dot gain curve can be defined individually or for all channels.

In addition, the allowed tolerance of the dot gain curve can be altered by the use of the slider or entering a value .

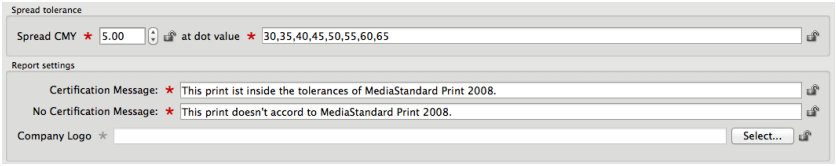
The changes are shown in the grafic simultaneously. Click the <Reset to standard> button to return to the standard parameters.

Spread Tolerance

In this section you define the maximum tolerances for the primary process colors (C/M/Y/K), the secondary colors (R/G/B) and the paper white, blank (0.00) entries will be ignored in the analysis.

- **Spread CMY**
  here you select the maximum spread between the primary colors Cyan, Magenta and Yellow by entering a percentage.

- **at Dot value**
  lets you enter any number of dot values at which the spread is to be checked. The dot values need to be entered comma-separated, e.g. „30,35,40,45,50,55,60,65“



Report settings

- **Messages**
  In this area you can define the messages for the reports. There are two messages – a pass and a fail message.
- **Company Logo**
  You can add an optional image (e.g. the company logo) to the PDF-report (JPEG files only).

7.8 basICColor statistic (QC visual)

The *basICColor statistic (QC visual)* module contains some additional features for *basICColor catch*.

7.8.1 Additional Evaluation (setup)

With this feature it is possible to add some additional evaluation criteria to the *basICColor QC color (control)* and *basICColor QC print (certify)* validation reports.

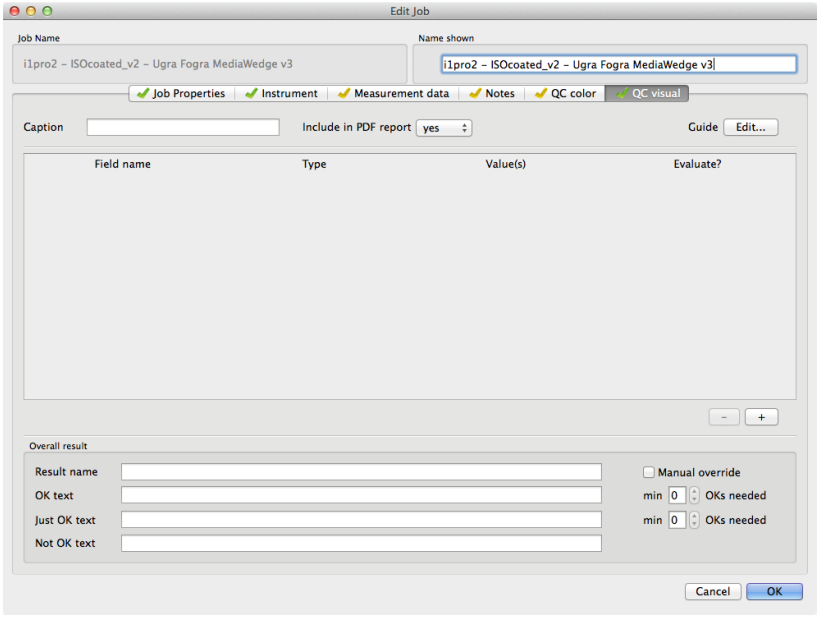
The criteria which are entered in the „QC visual“ tab of the job settings are not based on measurement values. They are additional criteria which can be based on a visual validation of a print/proof. They could also contain additional information like grammage of the paper which was used for printing, the printing speed (meters/hour or sheets/hour), etc.

It is possible to add up to ten various custom criteria to the validation report. These criteria have to be entered manually, because they are based on a manual/visual validation.

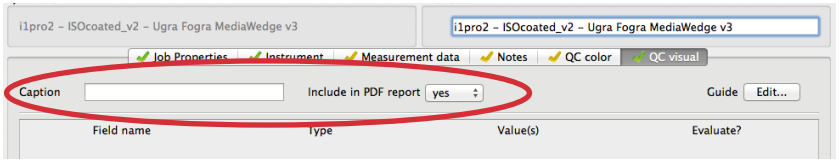
To add custom evaluation criteria to a job, the *basICColor QC visual* module has to be activated in the “Job Properties” tab in the job editor. Click “visual / statistic” checkbox to activate.

Then the *QC visual* tab opens where the criteria can be entered.

When the tab opens the first time there are no criteria entered at all and it looks like this

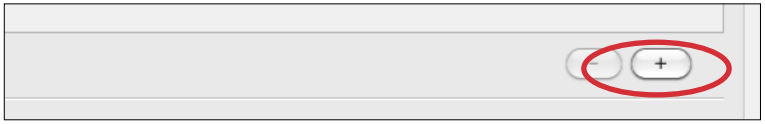


The next step is to enter a caption for the visual checklist that will be added to the validation reports of the *QC color* and *QC print* modules.



In this example we would like to add some visual criteria for the registration and a visual validation of the min. and max. tonal values of the different inks of the print run.

To add a new criteria field click on the „+“-button at the right bottom of the field list.



With a click on the „-“-button the last column of the list will be deleted. It‘s not possible to delete a row somewhere in the middle of the field list.

The first entry of any row is the field name. It represents the criteria you would like to add to the additional evaluation. Alternatively it can be used as headline or as a separator without any text for different sections of evaluation criteria.

By selecting the „Type“ of the field it can be definded how the values will be shown. The options for the „Type“ are:

Result

By using this type it is possible to select between the two options „OK“ and „Not OK“ in the evaluation window.

Check Box

For each entered value a check box will be shown in the evaluation window. The check box can be turned on and off.

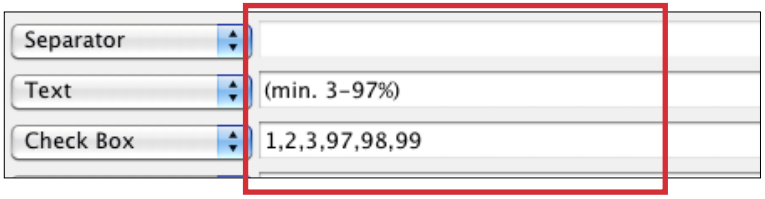
Radio Button
By using this type a radio button will be shown in the evaluation window.

Text
A text window will be shown. A custom text can be entered or changed.

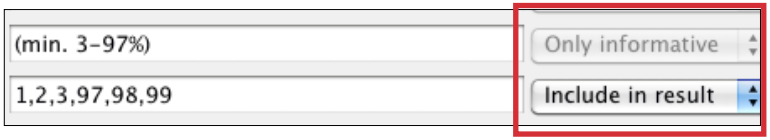
Separator
This type will draw a line to separate between different sections.

Spacing
This type will print out an empty line to separate between different sections.

In the next column it is possible to enter some custom values or text. Entering a comma separates the values. Every value will be displayed as separate item in the evaluation window when "Check Box" or "Radio Button" are selected as type for this field.



In the last column you can select if the field should be included to calculate the overall result.



Your options are:

Only informative

Selecting this option will output the field in the report, but the information of the field won't be used to determine the Overall result of the evaluation.

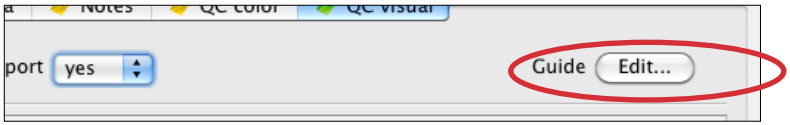
Include in result

By selecting this option it can be selected between two different criteria ("OK" and "Not OK") for the overall result. It doesn't matter for the overall result which of the criteria is chosen. It will only add an information to the report if a criteria is passed or not. The overall result will still give the "passed" status for the whole form.

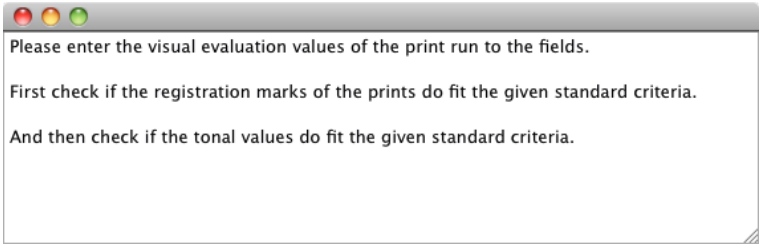
K.O. criteria

This option will give again the choice between two parameters ("OK" and "Not OK (K.O.!)"). But when "Not OK (K.O.!)" is selected it will effect the overall result. Depending on the selection for this criteria the validation of the overall result can pass or fail.

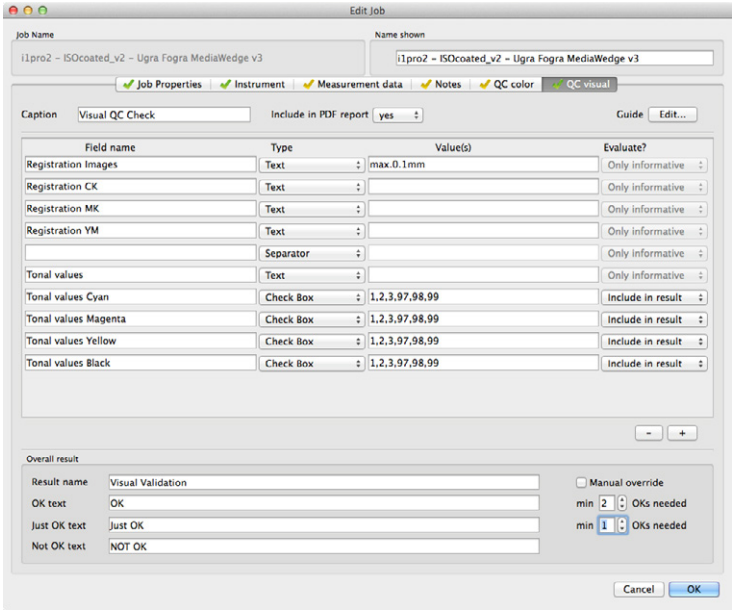
At the top right of the field list is an entry named "Guide". With a click on the <Edit...>-button a new window pops up and some text can be entered.



This text can be used to explain the different usage of the additional evaluation criteria to the user.



For our example we have used some visual validation criteria for a press run to check the registration and the tonal values.
The complete form that will be checked later in the validation window looks like this:



Overall Result

At the bottom of the tab in the template window the criteria for the overall result can be entered.

The first entry is the headline for the result. It will name the evaluation result.

OK text

The text in the "OK text" row will show when the evaluation has passed. Normally the overall result has to pass all the given criteria to get this status. The amount of criteria that are needed to pass can be entered at the end of the row.

Just OK text

In some cases an evaluation can pass the overall result with the status "Just OK". This means all important criteria have passed the test. Only some criteria which are not so important or have some stronger limitations than the standard criteria should set this status.

For example the standard criteria for the min. tonal value is 5% and the evaluation has passed this test. But the inhouse criteria for the tonal value is 3% and the evaluation has not passed this test. In this case the overall status can be set to "Just OK", because the standard evaluation for 5% was passed.

Not OK text

The text that is entered here will show in the report when the criteria to meet the "Just OK" status are not achieved. Overall this means the job has failed the evaluation.

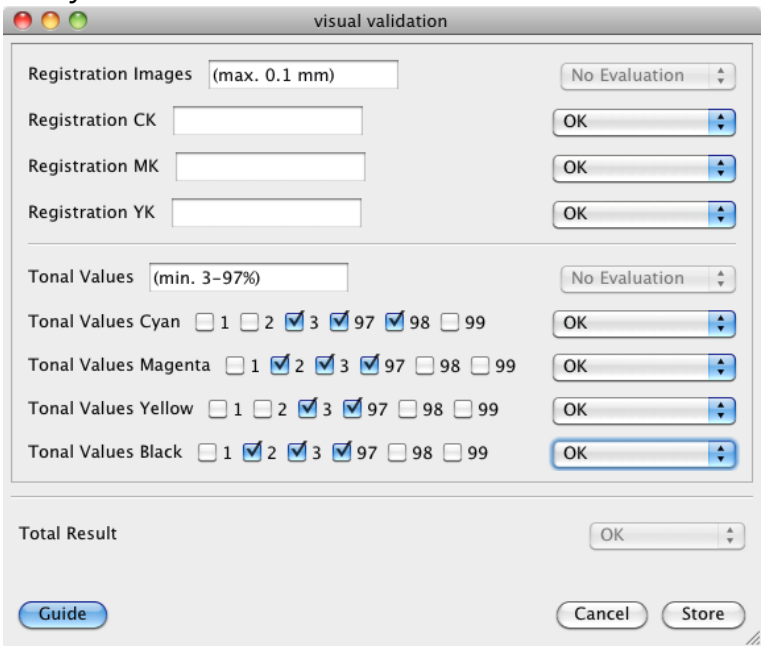
7.8.2 Additional Evaluation in a Job

Usually no job contains a visual evaluation only. Visual or manual evaluation criteria can be added to an existing *QC color* or *QC print* job.
Visual criteria can't be measured or defined by a measuring instrument.

This means a measurement for a *QC color* or a *QC print* job will be done first. Then an additional evaluation will be done. The results of this evaluation have to be added to the report of *basICColor QC color (control)* or *basICColor QC print (certify)*.
After a measurement is done the results for the *basICColor QC color (control)* or *basICColor QC print (certify)* job will pop up automatically.

The result window for the "Additional Evaluation" won't pop up automatically. To get to the result window go to the menu "Window/Results: Additional Evaluation" in the main menu of *basICColor catch*. Alternatively you can press <CMD>-E or <Strg>-E on the keyboard.

Now you can enter the evaluation data:



The window will contain all fields that have been entered in "Additional Evaluation" tab in the job settings.
It is possible to enter text to the field or change existing text. Check boxes and radio buttons can be enable/disabled. But most importantly the status for the single criteria can be selected.

Depending on the selected evaluation criteria the final result for the "Additional Evaluation" will be calculated and shown at the bottom of the window.

It is possible to save/store or cancel the status of the evaluation at any time. With a click of the corresponding buttons the status will be stored or cancelled and the window will be closed.

The stored results of the additional evaluation are added to the reports of *basICColor QC color* and *basICColor QC print*. So if one of those modules creates a pdf-report the report of the additional evaluation will be attached as additional information to that report.

Chapter 8

Custom Jobs

8. Creating Custom Jobs

Once a Job Template is created it will be listed in the left column of the Job Manager. This Job Template is the base for creating a custom Job.
basICColor catch creates an organized file structure in the Jobs folder, reflecting the Templates and Jobs structure you see in the Job Manager.
Sorting Templates and Jobs this way makes it much easier to find a specific Job in the list. CMYK-Profiling Jobs can be found by selecing the Template „Printer Profiling CMYK“, RGB-profiling Jobs by selecting „Printer Profiling RGB“.

A Template only predefines major criteria for the Jobs. Defining detailed criteria should be left to the individual Job. A Job can only be executed when all mandatory criteria are set.
A new Job can be created with a click on „New Job“ in the right column of the Job Manger and a click on the <OK> button or by double-clicking „New Job“.

After entering a name for the Template please confirm with a click on the <OK>-button. The Job name should reflect the purpose and specific characteristics of the Job.

The window that pops up after giving the Job a name looks similar to the window for creating a Template.

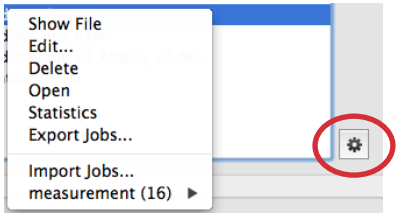
The essential difference is that some settings are locked and cannot be edited any more. The settings have been locked in the Template and can only be unlocked again in the Template.

The tabs look different, too:
There are 3 additional icons which depict the status of the entries in the respective tabs.
A green check mark ✓ symbolizes a tab with all mandatory (red asterisk) and optional (unmarked) parameters filled in.

An yellow check mark ✓ shows that all mandatory, but not all optional information is complete in this tab.

A red cross icon ✗ symbolizes that one or more mandatory informations are missing in this tab.

Jobs are only executable when all tabs contain green or yellow check marks. If one or more tabs show a red cross, the <OK> button is grayed out and the Job can not be saved.



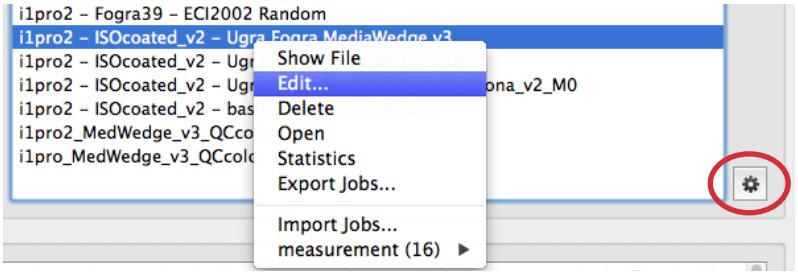
8.1 Tools icon

Click the “Tools” icon to get all options for handling/editing a job. These options can also be opened with a **right-mouse-click** the fast way. The “Tools” icon is located to the left of the Job list in the Job manager.

8.2 Editing existing Templates and Jobs

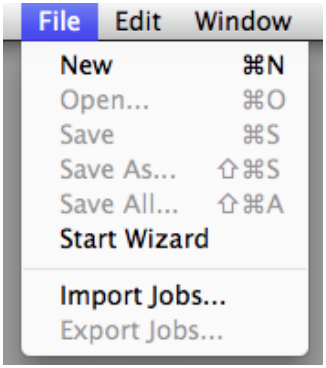
You can create a new Template or Job by editing an existing Template or Job and saving it with a different name. This saves time and effort if a Template or Job you want to create differs only slightly from an existing Template or Job (e.g. the reference file in the *control* module).

To edit a template or job, mark it and **right-click** to open the"Tools" menu OR open it menu clicking the "Tools" icon next to the job list in the Job Manager. Select "Edit..." and now all settings can be



edited (e.g. changing the reference file in the „control" tab).

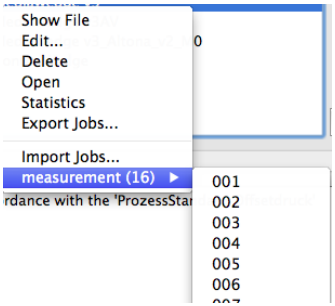
When all changes are done the Job can be saved with a click on the <OK> button.
The default setting for saving an edited Job is <Save As...> which saves a new Job and leaves the original untouched. This avoids inconsistencies with existing measurements and analyses.



8.3 Import / Export Jobs

To import a template/job select "File" --> Import Jobs... and select the wanted .c4e file. You can find special jobs on our website: http://www.basiccolor.de/measurement-jobs/ also. The .c4e files derive from jobs that have been exported from another computer and can contain measurement data. This way an easy transfer of measurement data between various computers is possible.
The imported jobs are shown in ***Italic letters*** in the job manager when you import the job initially, thus are easier to locate if you got a long list of templates and jobs. On second use the job is shown in normal letters.

The fastest way to export a template or job is by **right-clicking** the specific template/job and select "Export Jobs...". Choose a path where you want to save the file and click <Save> A .c4e file is created for further use. Alternatively select "File"--->Export Jobs or click the "Tools" icon and "Export Jobs..."



8.4 Direct measurement selection

Another really handy feature of *basICColor catch 5* is the measurement selection. This way you can not only see how many measurements a particular job contains but also open a specific measurement directly. Jobs containing no measurement data do not offer that feature.

Chapter 9

basiccolor catch Preferences

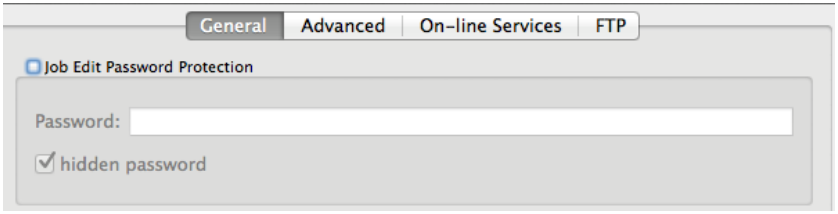
9. Preferences

In the preferences menu you set up the basic properties of *basICColor catch* all.

9.1. General tab

9.1.1 Job Edit Password Protection

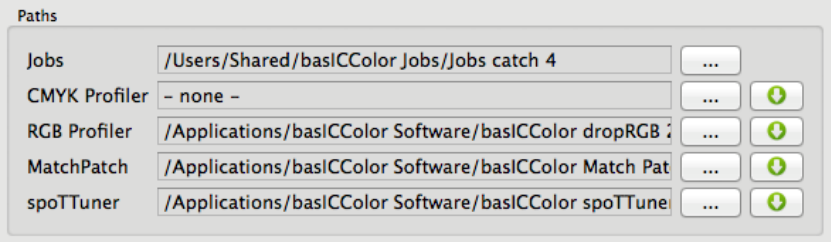
This check box allows to protect Jobs with a password from being altered. Use this option with care – if you lose the password, you will need to contact *basICColo*r support for help.



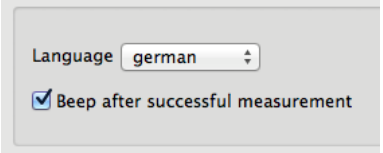
9.1.2 Paths

Allows you to set the path to the Jobs Folder. If you use more than one seats of *basICColor catch* on different computers, you can set the path to one and the same Jobs Folder and collect all your measurement data in the same place.

Furthermore you can set a path to the *basICColor* profilers CMYKick and dropRGB for *basICColor* catch to directly commit the measurement data. Choose a direct path to *basICColor* MatchPatch for profile optimization or *basICColor* spoTTuner for spot color optimization. Click the green download button if you need to download the applications.



9.1.3 Language and Signal



This pull-down menu lets you select the UI language. This selection is independent of the system language used by the operating system of the computer. It becomes active only after closing and restarting the application.

Beep after successful measurement

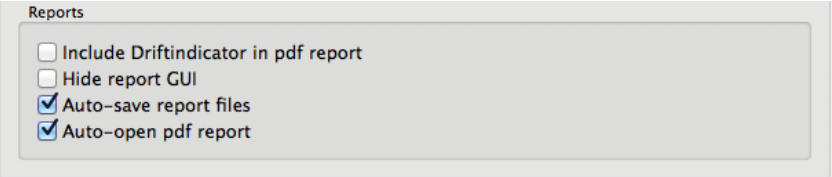
By default, this is switched on.

9.1.4 Printer settings

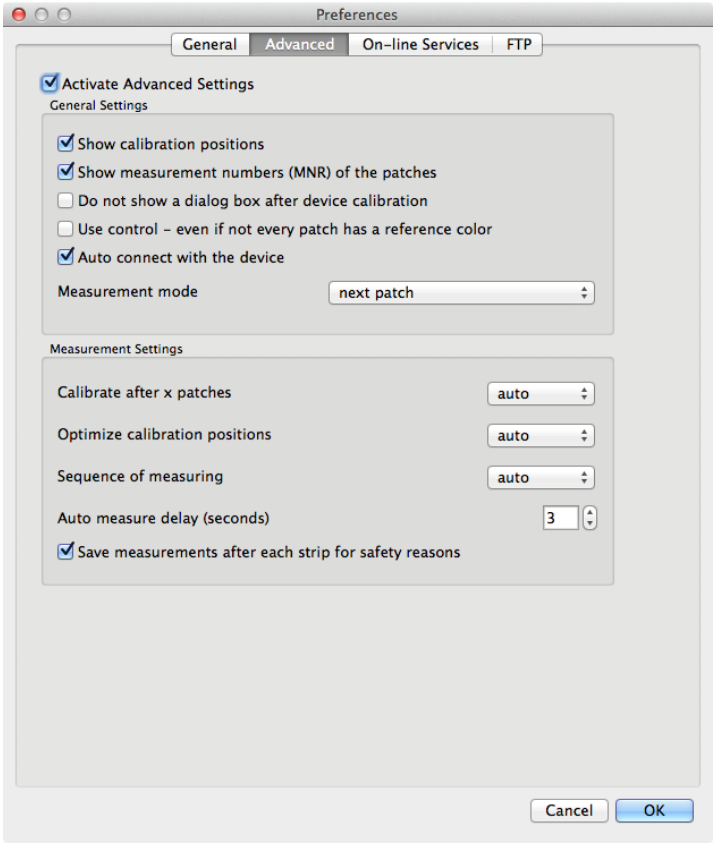
You can pre-define the properties of your label printer here. Depending on the operating system, it can be advisable to display the printer settings before a label is printed, so you can make changes to these settings.

9.1.5 Reports

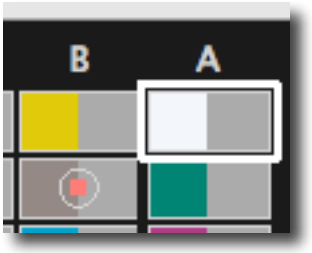
Define presets for report creation.



9.2 Advanced tab



Activate Advanced Settings
switches between the default settings of *basICColor catch all* and the individual settings you may have used. This way you can reset the application without loosing your individual settings.



Show calibration positions
For xy-tables *basICColor catch* calculates the optimal calibration positions for the instrument based on the layout of the target in order to optimize measure time. By checking this box *basICColor catch* will show the calibration positions on the target in the Measure window .

Show measurement numbers (MNR) of the patches
Shows the sequence of the measurement in a tool tip.

Do not show a dialog box after device calibration
Normally a window will pop up after the measurement instrument has been calibrated. With a click on the <OK> button this window will close and you can start measuring.
When activating this option *basICColor catch* will not show this window and you can proceed with the measurement, when the <Start> button is active.

Allow to use control...
With this option it is possible to perform a *control* analysis even if not all patches of the target are represented in the reference file.

Auto connect with the device
By default, *basICColor catch* auto-connects with the measurement instrument. When deactivated, you connect with the instrument by clicking the <Connect> button in the Measure window

Measurement mode

Every now and again some patches won't be measured in the fist go. With the option „next patch" *basICColor catch* will continue the measurement with the next patch after the currently selected one even if it has already been measured, „next unmeasured patch" will continue the measurement with the next unmeasured patch on the target.

Measurement settings

In this section you can define the behavior of xy-tables.
These settings are ineffective for scanning or point-and-click devices.

Calibrate after number of patches

With this option the auto calibration interval of the measurement instrument can be influenced.
At the beginning of a measurement session the instrument warms up so that the measurement values tend to drift. In order to prevent mis-measurements, *basICColor catch* calibrates the instrument more often in the beginning. Here you can define the calibration interval.

Calibration position

xy-tables tend to be slow devices. *basICColor catch* uses a smart logic to minimize the time required to traverse to and from the calibration tile.

The options „auto“ and „optimized“ check the location of the measurement head compared to the position of the calibration tile. *basICColor catch* then ignores the exact calibration point and automatically chooses a position closest to the calibration tile for performing the next calibration. This internal logic can speed up the measurement tremendously.

By selecting the „exact“ option *basICColor catch* will exactly use the calculated calibration positions.

Sequence of measuring

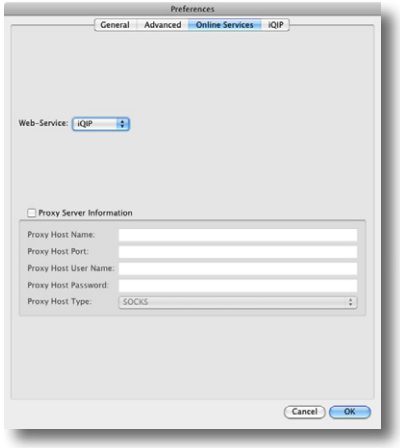
This option can also speed up measuring by selecting a top-bottom-top or left-right-left sequence, depending on the instrument.

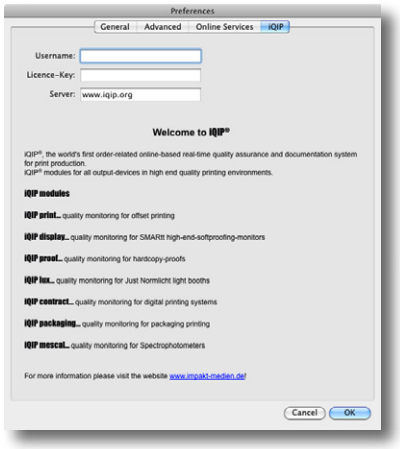
Auto measure delay (seconds)

Define how many seconds pass between measurements

Save measurements after each strip for safety reasons

saves the data after each strip is measured. This way you can continue to measure a target that you couldn’t finish earlier at a later point.





9.3 Online Services tab

basICColor catch offers the possibility to upload the measured data to Online services.

Web-Service

First, please select the online service from the list. A new tab, named accordingly, will appear to the right of the Online Services tab

Proxy Server Information

Check this box if a proxy server is active and enter the required information. Please refer to your administrator for the exact access data.

Web-Service tab

The name of this tab is subject to the choice of the on-line service in the Online-Services tab.

Enter your account and log-in data for the selected web-service here.

Please contact the provider of the online service for more information on these online services. The URLs can be found in the web-service tab. *basICColor* will not offer support for these online services.

If you want to set up your own FTP-server for collecting measurement data centrally from remote measure locations, you can do so by selecting the „FTP“ option in the Online Services tab and entering the access data on the FTP page.

Chapter 10

Product information basICColor catch

10. Product Information basICColor catch

Copyright Information

Trademark Information

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Version 5.0, November 2015