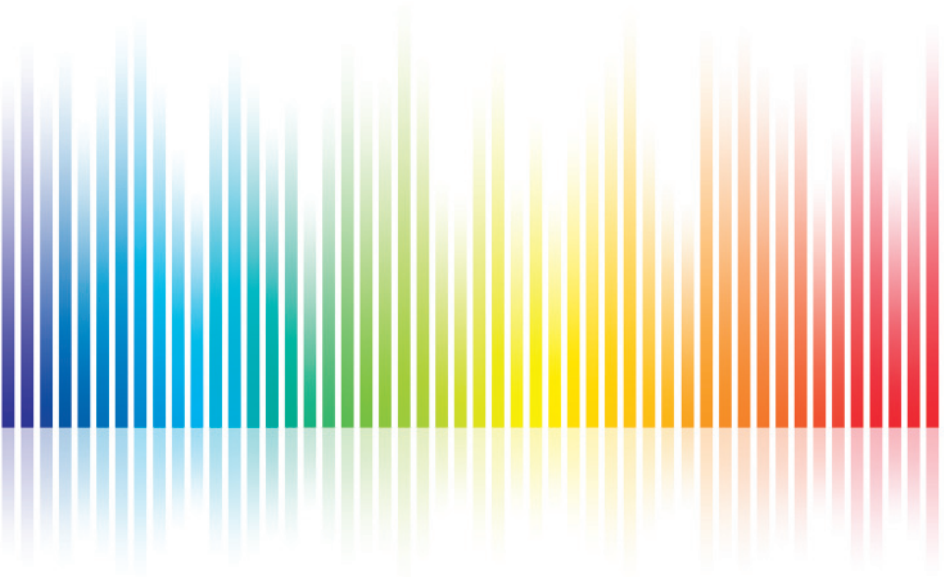

x-rite

ColorQuality6

Windows®

OPERATING MANUAL

OPERATING MANUAL

Symbols / Indications

Useful tips to a better understanding and an easier handling of the software.

If there are further information to the specified topic on another page in this manual, this symbol will show you the respective chapter.

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1 General

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1 General

1.1 Introduction

X-Rite ColorQuality™ makes color quality verifiable and quality control measurable. Proof of your quality standards is provided by glancing at the printout of our clearly-configured protocol.

By connecting to any X-Rite measuring device you open up unlimited control possibilities within a closed quality circle. Colors, paper, specimens and final products remain under secure control from receipt of your first or repeat job to delivery.

By networking with other software solutions – such as X-Rite InkFormulation™ and X-Rite ColorNet™ - as well as by implementing ColorQuality in the Standard created by X-Rite for digital exchange of color data, CxF (Color Exchange Format), you secure the interface of tomorrow today.

ColorQuality is a multi-layer, flexible and network-supporting program. With it you can work simply and quickly owing to its practice-oriented structure. Using ColorQuality requires a basic knowledge of WINDOWS.

1.2 Registration

When you register online at www.xrite.com, you will receive:

- Information about software products of X-Rite™
- Announcements of new program versions
- Announcements concerning new update possibilities
- Support for problems with this software.

1.3 Software licensing contract

1. Licensing

1.1 X-Rite hereby licenses you to use the user, demonstration and operating software found in the package, including all associated updates and associated documentation.

1.2 X-Rite retains all rights to the software.

1.3 You may not sell the software to a third party or otherwise pass it on unless the third party obligates him/herself to abide by the conditions of this licensing agreement with X-Rite. This also holds for backup copies.

1.4 You may not use this software for any purposes other than those specifically allowed by this license.

2. License limitations

2.1 The know-how of this software is to be protected in that you are not allowed to decompile, reverse engineer, disassemble or in any other way make it perceptible to persons.

2.2 You may not modify, adapt, translate sell or permit use of the software by others in any way, either gratuitously or for payment, or prepare derivations of this software either completely or partially.

2.3 You are not allowed to transfer the software to another computer by electronic means.

3. License termination

3.1 This license expires if you commit a breach against any provision of this contract.

3.2 You can terminate this license agreement at any time by destroying the software and all copies of it.

1.4 Contact address of X-Rite

If you have questions or comments, please contact us at:

X-Rite, Incorporated
4300 44th Street, S.E.
Grand Rapids, Michigan 49512
U.S.A.
Telephone: 1 616 803 2100
Fax: 1 616 803 2705
E-mail: support@xrite.com
Internet: http://www.xrite.com

If you experience problems with this program, please contact your X-Rite representative or us directly at the above address.
Please inform us immediately if you discover any errors in our program. We will, of course, eliminate them as soon as we can.

Suggestions for improvement
We welcome all comments and suggestions for improvement with regard to our programs. Please detail all items as thoroughly as possible so that we can support you in the best possible way.

1.5 Safety directives

In order to avoid improper operation, only trained personnel should use ColorQuality.
Please observe all notes provided in chapter 19 "Installing ColorQuality".
Also observe the safety regulations in the operating manual for the measuring device.

1.6 Notes on using this handbook

These operating instructions provide an introduction to ColorQuality and explain the various functions and operational sequences.
The most important information is located in the following chapters:

Chapter 3	Terminology Basic sequence of a quality control job.
Chapter 4 - 14	Detailed sequence of a quality control job, operation.
Chapter 15	Important settings, parameters
Chapter 19	Installation

2 ColorNet and CxF

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2 ColorNet and CxF

2.1 ColorNet

X-Rite ColorNet™ completes the circle of complete color data processing in the graphics industry. In the sense of Total Quality Management and the ISO quality standards, colorant data can be checked and controlled all the way from order receipt and color specimen measurement, on up to the adjustment of the printing press and job delivery. The programs grouped under ColorNet software – usable on WINDOWS – allow direct access to a central colorant database. In this way you can control and statistically analyze one and the same data using the ColorQuality Software and in color formulation you can mix transparent and opaque colors using X-Rite InkFormulation Software. With one single, reliable, exact measurement, you can now cover various steps in the job sequence. ColorNet supports networks: Once-detected, original colors are stored on a server, where they can be called up at anytime by different users. ColorNet guarantees decentralized access to colorant data with various measuring devices..

2.2 CxF

CxF (Color Exchange Format) is an open standard created by X-Rite for color communication, the principle aim of which is the secure exchange of color information in digital form. The CxF-format contains all important information, in particular the spectral values of the colors are transferred.

Once colors have been acquired you can export them as CxF data from a X-Rite application (e.g. from ColorQuality, from InkFormulation or from a X-Rite Color Management application) and finally import them into another X-Rite application or – using the CxF Browser – connect and display them.

You can therefore migrate a color directly from the CxF Browser as a reference color into ColorQuality. Possible different filter conditions between CxF colors to be imported and the measuring conditions currently installed in ColorQuality are made transparent through a warning.

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3 Structure and function

3.1 General

ColorQuality can provide you with proof of perfect color control quality. Upon opening a job you first assign a customer. You then define the measuring conditions and stipulate reference colors and the corresponding tolerances.

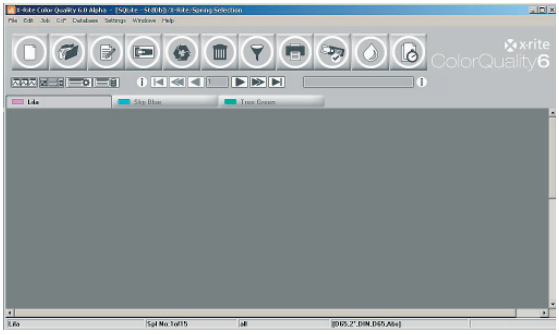
You measure reference colors and samples and then, in a simple way, present, compare and evaluate on the screen using ColorQuality. Trend data, CIELab-charts, spectra and statistics can be printed in the form of graphics and tables.

The user desktop is clear. You are led through logical operations step by step. Simple mouse clicks allow you to arbitrarily present, compare and evaluate your data on the screen. You should become familiar with the basic makeup of the ColorQuality program so that you can use it efficiently. Thus please study this chapter attentively. Thus please study this chapter attentively.

3.2 Desktop

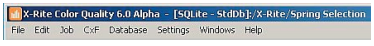
The desktop of ColorQuality is based on a graphical user interface.

The main window appears after you have started ColorQuality appears as follows:



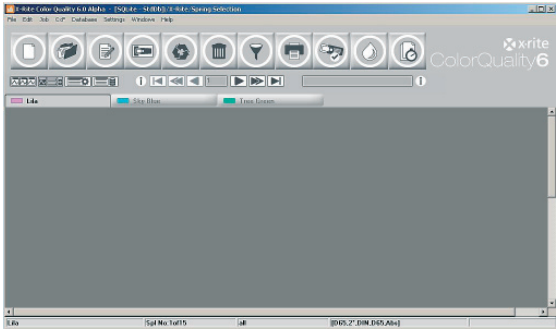
3.2.1 Menu bar

IIndividual menu titles are displayed In the menu bar. Clicking on an item brings up a list of additional functions.



You can execute the following functions in the different menus:

- File — Set up printer; Save/restore database; Change user; Change to InkFormulation; Quit
- Edit — Copy reference; Copy current sample; Copy all
- Job — Open and process job; Display functions of the job window; Printing
- Database — Set up database; Process data relating to customers, jobs and standards
- Settings — System and program settings
- Window — Arrange windows
- Help — Call up subjects in the ColorQuality help function- Information window with program version, serial numbers and licenses



3.2.2 Control panel

The symbols bar provides a overview of all operating elements required for measuring samples and displaying sample values.
The current settings are displayed in the status bar.

.

Description of toolbar elements

New job
Creation of a new job

Open job
Opening an existing jobs

Modify current job
Changing defined reference colors or adding new reference colors

Measure sample
Calibrating samples

Copy sample from ColorNet
Loading saved colors as samples

Delete existing samples
The most recently measured or loaded sample is deleted

Select displayed samples
Indicate filtered samples following grouping criteria

Print job
Prints the selected viewt

SPM
Looks for and connects attached spectrophotometer

Change to InkFormulation
Loading InkFormulation or changing between ColorQuality and InkFormulation

Quick compare
Possibility of quickly comparing sample measurements with a reference color

Job display mode
One display for several series

Series display mode
Several displays for each series

Set display
For setting job or series display

Manage presets
Change the user-specific window arrangement

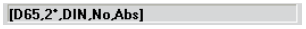
Arrow keys for sample search / series info
Searching or selecting sample / info about selected series

Sample names / sample info
Entering sample names /info about selected samples

Series name
Identification of active series

Sample number
Number of the selected sample, total number of sample

Selection of samples displayed
Displays the selected filter or grouping criteria



Measuring conditions
Measuring conditions of the job (type of light, monitor, density standard, filter, white reference)

Job / series display
Indicates which display mode is presently selected: job or series

3.3 White calibration of the measuring device

The white calibration is the basis for exact measuring results. You have to regularly calibrate the measuring device to the white reference to obtain the greatest precision.
Depending on the adjustments you have chosen, ColorQuality may request that you carry out a white calibration in the course of your work with the measuring device (refer to section 15.1 “General settings“).
Please also observe the instructions for using your measuring device.

3.4 Basic sequence of a quality control job

3.4.1 Check settings

Please ensure that the required settings (e.g. default measuring conditions) are properly selected before you define a new quality control job. Measurements made with incorrectly-set parameters can lead to incorrect results (refer to section 3.7 “Settings“ and chapter 15 “Settings to make“).

3.4.2 Defining the job

You have to define a new job or open an existing one before you can measure samples (refer to chapter 5 „Defining a new quality control job“ and chapter 6 “Processing an existing quality control job“).

A complete job definition consists of:

- a customer name
- a job designation
- one or more series (corresponding to the number of measuring fields to be checked) each with a reference color and tolerance value.

a. Customer name

Since jobs are assigned to individual customers, you first have to enter in the database the customer's name and, if required, additional customer data (refer to chapter 12 "Modifying customers and entering new customers").

b. Job designation

The entry of a job designation is not a must. It is nevertheless a prerequisite for locating a specific job again in the database. All jobs which do not have a job designation are stored in the database as 'nameless'.

c. Measuring conditions

Once the job designation is entered, as the next step you can define the measuring conditions applicable to this job. As default settings, the standard measuring conditions entered in the menu under „Settings" > „Program" are displayed. Here, however, you can alter the measuring conditions for the existing job corresponding to requirements.

d. Series

For each color of a print job to be monitored you must define a series. If a print job is to be monitored with four colors, this quality control job then contains four series. All series of a quality control job are stored in the database under a common job designation. This allows complete jobs to be selected from the database very simply and quickly and then loaded for further processing.
A complete definition a series consists of:

- a reference color and
- a tolerance entry.

e. Reference color

The reference color is the target color. The samples measured later are compared with it. You have to determine a reference color for each series of your quality control job. The reference color can be defined in different ways (refer to section 5.6 "Defining a new series"):

- by measuring target colors (e.g., from the OK bow)
- by loading standards or reference colors from ColorNet.
- by numerical entries via the keyboard (e.g., in form of L*a*b* or remission values)

f. Tolerance value
The tolerance value determines the maximum acceptable color distance between the reference color and the samples of a series.
If you do not make any changes in the tolerances, ColorQuality automatically chooses the value selected in the program setting (refer to section 15.2 “Settings program”). Since ColorQuality takes the tolerance you chose for following series, the simplest approach is to select the required tolerance as the first step when defining the first series.

g. Closing the job definition
When you have defined all the series needed for your job and have defined the associated tolerance values, ColorQuality automatically generates a new job in the database. You are then ready to measure the samples of the individual series.

h. Modifying current job
During job processing, you have the possibility at any time of measuring additional reference colors, deleting surplus reference colors or changing the reference colors, the tolerance value and auxiliary information.

i. Saving the job
ColorQuality automatically saves all objects in the database, whether they be jobs, customers, standards or samples. As a result, you can process a new job or quit ColorQuality at any time without consciously saving the current job.

j. Open existing jobs
Existing jobs can be reopened anytime for further processing. With a job, ColorQuality stores in the database not only all measuring values, but also the entire program configuration. Upon re-opening a job, your screen again shows the exact configuration you had when you previously quit the job.

k. Opening a repeat job
If you intend to carry out a quality control job identical to an already processed job, you have the possibility of loading an existing job as a repeat job. ColorQuality copies, from that existing job, all reference colors, tolerances and the entire program configuration in a repeat job, without,

however, copying the measured samples. The present job designation has ‚R_J' placed before it to mark it as a repeat job. As soon as you have prepared a repeat job, you are in the position of being able to immediately measure new samples, without having to concern yourself about the job configuration.

3.4.3 Measuring samples

After a job has been newly defined or an existing job has been opened, samples can be measured. After measuring, ColorQuality automatically assigns a sample as the last sample of the active series and provides it with a sample number and a date/time stamp. The last sample measured in each series thus receives the highest sample number and the most recent date.

a. Assigning the samples to the individual series

If the measuring fields to be monitored differ from one another, ColorQuality can automatically undertake the assignment of the samples. Automatic assignment is the simplest and most convenient type of assignment. In special cases you can, however, also select to make a manual assignment (refer to section 15.1 "General settings").

b. Individual measurements or multiple measurements with average value calculation

You can choose between individual measurements and multiple measurements with average value calculations for not only sample measurements, but also for reference colors and standards (refer to section 15.1 "General settings").

c. Sample names and notices

Each measured sample is unambiguously characterized through its association with a series and by a sample number. To better distinguish the samples from one another, each sample can also be labeled with a sample name. Additional information can be entered via the keyboard.

3.4.4 Displaying samples

Numerical information in the display always refers to the active sample. This is symbolized on the screen with large green, yellow or red cross. The sample number of the active sample is shown on the status bar.

ColorQuality normally displays all samples of a job. For very large series this can result in complex, excessively-detailed displays. To avoid this, ColorQuality allows you to limit the number of displayed samples for large series in various different way (refer to section 7.3 "Displaying and selecting samples").

3.4.5 Display functions

With ColorQuality you have the possibility of completely configuring two different display modes:

- The job display: displays a specific type of display for all (or selected) series of a job.
- The series display: displays different types of display for the selected series.

You can quickly change between these two display modes. In this way you can present an overview in the job display, or specific details about your measurements in the series display, as you wish.
You can change the display in different ways, so that the required information is presented as completely and as meaningfully as possible
(refer to chapter 8 “Adapting and changing the display“).

a. Jobs display

A specific type of display is presented in the job display for all series of your quality control job. Even on a monitor with a standard resolution, all the series of a job can be jointly displayed and monitored on the same display page e.g. with the aid of a trend graphic. You can freely select the display type to be common for all series.

b. Series display

For an individual series, you can stipulate that different display types be simultaneously presented on a screen page in the series display. Depending on the resolution of your monitor and on the type of parameters selected, there can be between two and six recommended displays. You thus have the possibility to jointly display a series, e.g., a trend graphic, correction notes, statistics and remission spectra. You can also quickly change from one series to another.

c. Configuring display changes

You can change the display in different ways so that the required information is presented as completely and meaningfully as possible:

- Zoom for trend presentation
- Change the assignment via menu ‚window‘
- Select the displayed samples

3.5 `Quick compare' mode

ColorQuality allows you to compare sample measurements with a reference in **Quick compare** mode, without having to open a job first.
Also in this mode, all displays are available, however it will be assumed from the user's intent that the measurements are only going to be recorded temporarily and then discarded.
In case the user decides, once the series of measurements is completed, to keep the measurement data, there is still an option to save the series of measurements as a job (see chapter 9 „'Quick compare' mode").

3.6 Data administration

ColorQuality can be simultaneously linked to a number of active databases. New jobs are still stored in the same database as the selected customer.
A database can be opened at the same time by a number of ColorQuality programs running on different computers or on the same computer. However, ColorQuality prohibits simultaneous access to the same database object.

All data relating to jobs, customers, standards and samples is stored in the database. You can process this data in a variety of ways:

In the 'Customer' database you can:

- Modify customer data
- Forward customer data by e-mail
- Import and export customer data
- Delete customers.

In the 'Job' database you can:

- Print job data
- Forward job data by e-mail
- Import and export job data
- Delete jobs.

In the 'Standards' database you can:

- Define new standards
- Modify standard designations and additional information

- Print standard data
- Forward standards data by e-mail
- Import and export standards
- Delete standards
- Define settings for standard registration.

3.7 Settings

A broad spectrum of possibilities means that ColorQuality can be tailored to your job-related requirements.
In the menu settings you determine the settings for the default measuring conditions (illuminant, observer, filter, density standard), the color system, the types of light for metamerism, the standard tolerances and the dye strength calculation (colorant, calculation method, substrate (refer to section 15.1 „General settings“ and 15.2 “Settings program“).
Ensure that you have correctly selected all settings before you define a new quality control job. The default measuring conditions are permanently assigned to the job and cannot be changed later.

Further, you can display information associated with your measuring device (refer to section 15.3 “Settings measuring device“), you can select activable display types (refer to section 15.4 “Settings displays“) and you can stipulate the extent of your check areas (refer to section 15.5 “Settings check area“).

3.8 General operating information

While you work with ColorQuality, information windows will be displayed during various sequences. These will point out certain processes or possibilities. Please read these notes thoroughly and carefully before you either acknowledge by clicking on **OK** or **Yes**, or interrupt the sequence with **No** or **Cancel.**

3.8.1 Standard buttons

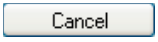
Buttons are displayed for standard functions in different windows. These are not completely explained in the operational sequences:

You can select all entries in a list in order to process them (e.g., print them) and then deselect them when you wish to select an individual entry.

If you click on **Info** or **i,** another window appears with information and notes about the current object. Click **OK** to close the window.

You have to tag data before you can delete it. After you click on **Delete,** an information window appears. Here you must click on a **Yes** or **OK** button in order to verify the delete. Click on **No** or **Cancel** to cancel the delete action.

Search criteria window is opened.
You can search for database entries (customers, jobs, standards) according to date, designation and additional descriptions.



You quit the window. Any entries or changes you have made are not saved.

The entries made are saved and the window is closed.

3.8.2 Drag & Drop

In the database dialog windows, one or more standards, customers or jobs can be dragged to an Explorer window. The data is stored in ASCII format. This file then be imported into ColorQuality at a later stage by clicking on **Import**.
Drag & Drop can be used to copy measuring values from one series to another.

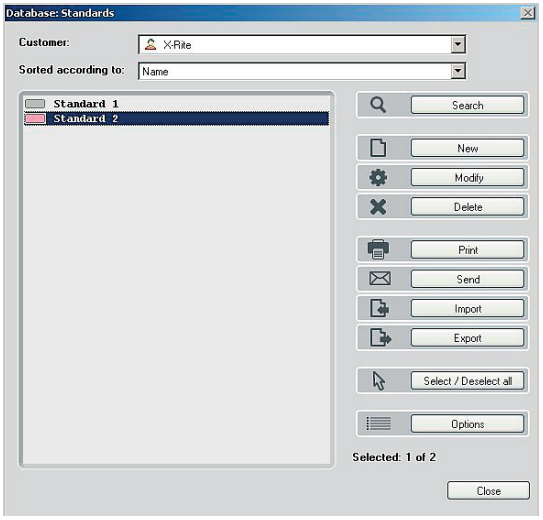
3.8.3 E-Mail

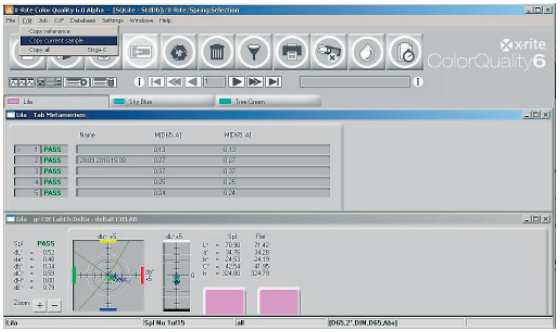
For this function, a MAPI-compatible e-mail program, such as Microsoft Outlook, must be installed. One or more standards, customers or jobs can be selected in the database windows and then forwarded by e-mail by clicking on **Send**.

Procedure:

1. In the database window, select the jobs, standards or customers which are to be forwarded.
2. In the database window, click on **Send**.
   Your standard e-mail program is started and an ASCII file is generated from the objects. This file is attached to the e-mail.
3. Before transmitting, complete the message to include the address and the required text.

The recipient can open the attached file in his own e-mail program. ColorQuality is automatically started and the object can be imported.





3.8.4 `Edit' menu

The **Edit** menu incorporates the three commands **Copy reference, Copy current sample** and **Copy all**.

If the active window contains a table, all the menu items can be accessed. The reference, only the current sample or the reference and all samples are copied as text onto the clipboard. The values can be pasted into another application, such as Microsoft Excel for example. It is therefore a straightforward matter to transfer values from ColorQuality into other applications.

If the active window is displaying a graphic, only the **Copy all** command is accessible. This command is used to copy the graphic onto the clipboard, from where it can be pasted into another application, such as Microsoft Word. The size of the copied graphic is equivalent to the size of the graphic in ColorQuality.

4 Starting ColorQuality

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4.2 Perform a white calibration of the measuring device 35

4 Starting ColorQuality

4.1 Starting ColorQuality

The program must first be installed in accordance with the instructions given in chapter 19 “Installing ColorQuality“.
The measuring device need not be connected when ColorQuality is started up. For off-line measurement use, you can even disconnect the measuring device when the program is running and later reconnect it to the computer. ColorQuality automatically recognizes the interface you selected.

Procedure:
1. Start ColorQuality.

If you have started ColorQuality without a measuring device connected, a **Searching for SPM** window appears after the start screen. The program searches for all the interfaces with different baud rates. Of course, you can also suspend the search.

After startup, the main window displays the last processed job.
When the program is started for the first time, the main window is blank.

4.2 Perform a white calibration of the measuring device

White calibration is the basis for exact measuring results (refer to section 3.3 “White calibration of the measuring device“). After you have selected the appropriate option (refer to section 15.1 “General settings“), you will be requested to carry out a white calibration at various points during “our work with ColorQuality.

With the X-Rite SpectroEye measuring device, the white calibration is always performed automatically without a prompt.
If you have never calibrated your measuring device, or if it has been a long time since the last calibration, then you should carry one out without fail. If you do not wish a white calibration, you can skip the procedure by clicking **No**.

Procedure:
Refer to the operating manual for the measuring device and follow the instructions on the screen.

5 Defining a new quality control job

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5 Defining a new quality control job

5.1 General

A complete job definition consists of:

- a customer name
- a job designation

Before opening a new quality control job, pay careful attention to the correct settings for the measuring conditions (refer to section 15.1 “General settings“). These are permanently related to the job and cannot be changed later.

5.2 Opening a new quality control job

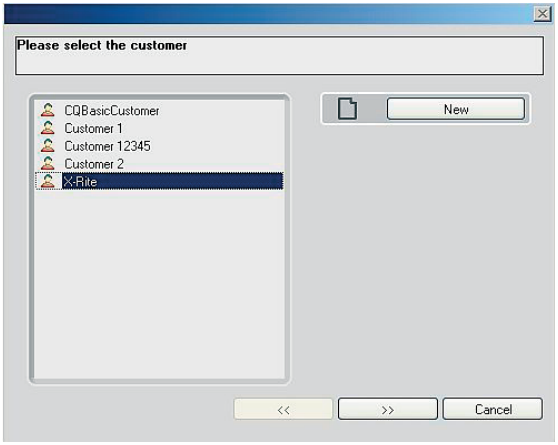
Procedure:

1. Connect up the measuring device.
2. Click on the **New Job** symbol.
   The **Select a customer for the new job** window appears.

If necessary, carry out a white calibration (refer to section 4.2 “Perform a white calibration of the measuring device“).

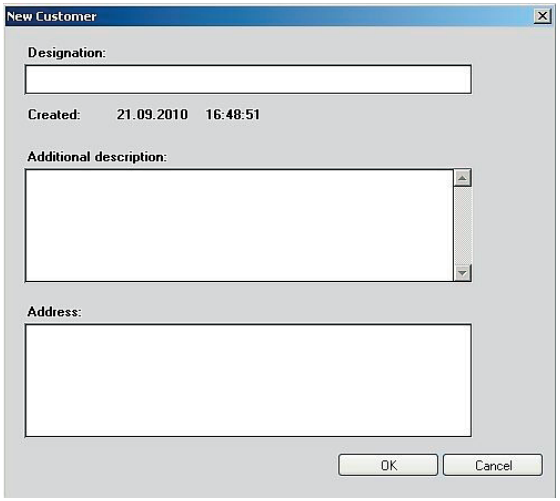
5.3 Assigning a job to a custome

A list of all existing customers of the currently connected database is displayed in this window.



Procedure for an existing customer:

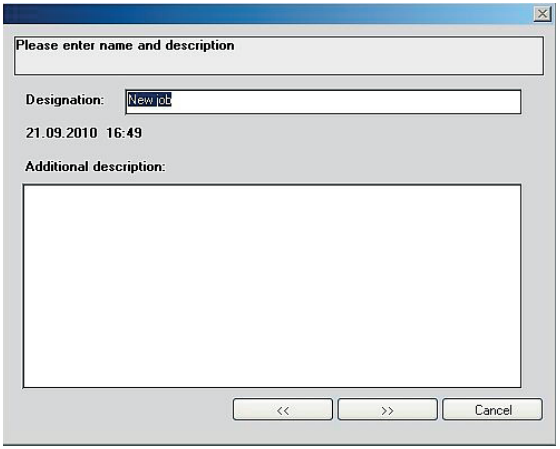
1. Click on the name of the customer to whom the new job should be assigned.
2. Click on **Select.** The **Job: New** window opens.



Procedure for new customers

1. Click on **New**. The **New Customer** window appears.
2. Click in the **Designation** field and use the keyboard to enter the required designation.
3. If required, click in the **Additional description** or **Address** fields and enter your text.
4. Click on **OK** after you have made your entry. The **Select a customer for the new job** window reappears. The customer you have opened appears in the list of customers.
5. Now click on the customer name to be associated with the new job.
6. Click on **Select**. The **Job: New** window opens.

5.4 Entering job designation / job information

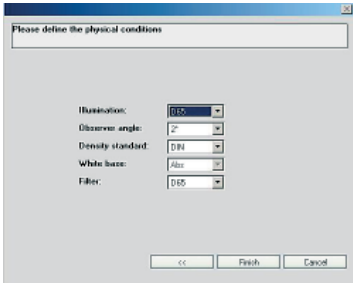


Procedure:

1. In the field **Job designation** mark the previously-determined job designation ‚nameless' and overwrite the entry using the keyboard.
2. In the field underneath this you can enter additional descriptions for the job if necessary.
3. Close the window by clicking on **OK**.

5.5 Defining measuring conditions

In the **Measuring conditions** window that now appears, you can set the measuring conditions that apply to this job.



The measuring conditions that are displayed when this window appears correspond to the general preset measuring conditions in the menu under **Settings > General > Default measuring condition**, that is, they are migrated from there (see section 15.1 “General settings”).
If you work with measuring conditions that are always the same, it is recommended that you define these from the beginning on in the above-mentioned location. Consequently, they are suggested here as standard for all new jobs.

Adjust the measuring conditions if required and click on **OK**.
You will then be taken to the next step for opening a job.

.

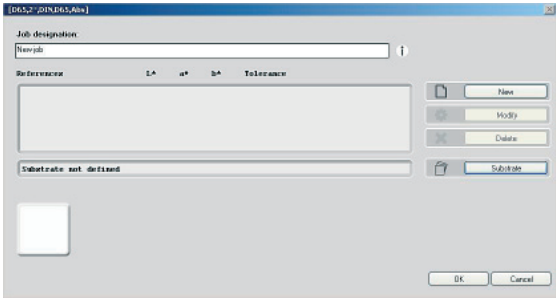
5.6 Defining a new series

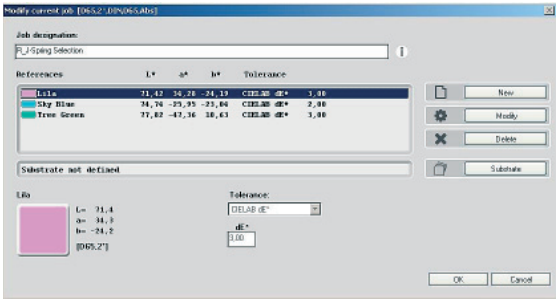
A complete definition of a series consists of:

- a reference color and
- a tolerance value.

The selected measuring conditions are displayed in the title line of the **Job: New** window. Check this again here before you continue with the series definitions:

1. In the **Job: New** window, click on **New**.





2. The **New Series** window opens

The dimmed **Calculate reference** and **Calculate tolerance** buttons are not activated until the samples have been measured (see section 5.6.6 “Reference and tolerance calculation“)
An additional **Position** button is then displayed if a X-Rite SpectroScan is connected. In this case, you will be asked for the position of the measuring field (refer to section 5.6.7 “Enter position“)

3. Click on the **Tolerance** field. This opens the tolerance range list.
4. Select the required tolerance range. Also refer to section 15.2 “Settings program“.
5. Enter the maximum acceptable color distance in the fields beneath the color coordinates.

You can install a standard default for the tolerance range (e.g. preferred dE-formula) and maximum acceptable color spacing in the menu under **Settings > Program > Default tolerance**. This setting is taken as the default for new series.

6. Define the reference color (refer to following section and section 3.4.2 “Defining the job“).
7. Click on **OK** in order to return to the **Job: New** window.

This series is now defined and is entered in the **Series** list of the **Job: New** window. There you will also find the L*a*b* values of the measured reference color and the tolerance value.
In order, for example, to define three additional series with the series names of Magenta, Yellow and Black for four-color printing, repeat the procedure described above with the corresponding reference colors.
To define paper white, click on **Substrate** and, in the displayed **Substrate** window, define the paper white.

This is only necessary and significant if you want to display paper-based values such as **Density** or **Color intensity** (see also section 15.2 “Settings program“).

In order to change the substrate to calculate density and color intensity, in the menu under **Settings > Program** the white reference must be set to **Substrate** (see section 15.2.2 “Density calculation“).

Furthermore, it is extremely important to remember here that a substrate measurement has no influence whatever on colorimetric values, except when the white reference is set to **Substrate**, as these values always relate to absolute white.

5.6.1 Measuring the reference colors

Only measure the reference colors directly in the **New series** window if you wish to use them singly for a quality control job. Reference colors that you wish to use for several jobs should be entered in the database as standards and loaded from there (refer to section 5.6.2 “Loading reference colors from ColorNet“).

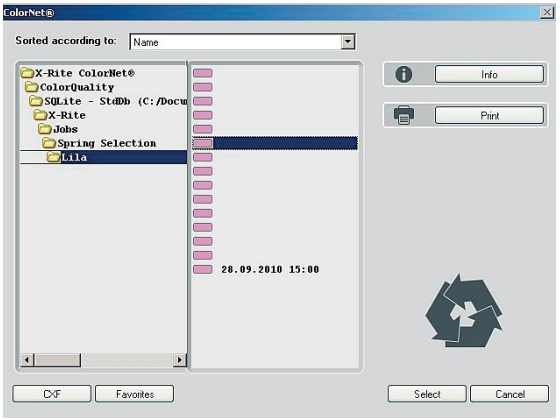
Procedure:

1. Place your measuring device on the pattern to be measured which has the required target color.
2. In the **New series** window, click on **Measure**. The measurement is started.

By measuring the relevant reference color, ColorQuality gives the generated series a designation derived from the hue of the reference color (e.g., ‚cyan‘). You can expand this or overwrite it and enter further information in an additional field.

5.6.2 Loading reference colors from ColorNet

Using ColorNet you can copy measuring values from arbitrary ColorNet applications (InkFormulation, ColorQuality, X-Rite measuring devices) to use as reference colors for a new series.



Procedure:

1. Click in the **Job: New** or **New series** windows on **ColorNet**.
2. In the left area of the **ColorNet** window, click on the required directory.

If there are sub-directories under X-Rite ColorNet, open these by double clicking. A list of the standard or reference colors appears in the center of the window.
If you click on a standard or on a reference, the corresponding measurement values will appear in the middle part of the window.
General note on navigating within ColorNet: If you lose your way in ColorNet or have lost track of where you already are, then you should double-click on the top entry "X-Rite ColorNet". This will take you back to the top level of the directory structure and the available ColorNet applications are displayed underneath.

3. In the list, click on the standards or measuring values that you wish to load.
4. Click on **Select** in order to load your selected reference colors and to return to the **Job: New** window.

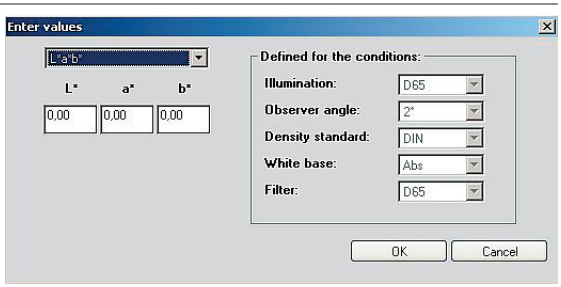
The **Favorites** button is displayed in the ColorNet window. The **Favorites** window is opened by clicking on this button. Here you can add the current path to the list or delete an entry. By clicking on **Select**, the selected entry becomes the current path.

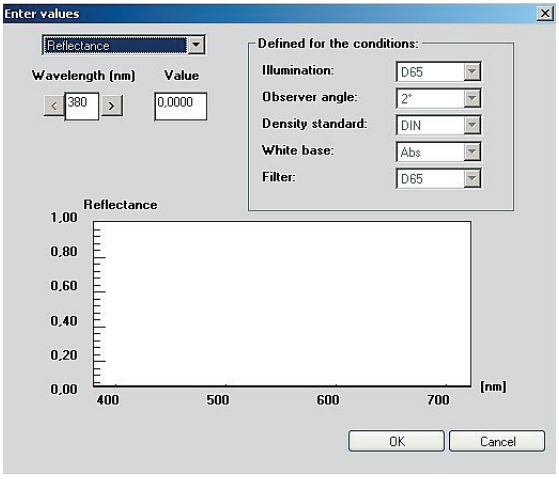
5.6.3 Entering reference colors using the keyboard

Procedure:

1. In the **New series** window, click on **Enter values**. The **Enter values** window appears.

2. Select the required entry type in the color space list and enter the required reference color value.
3. In order to enter your reference color as a numerical remission spectrum, choose the **Reflectance** option in the color space list and in the **Value** field, enter all associated values for the wavelength between 380nm and 730nm. You can move through the wavelength using the ">" und "<" keys..
4. Click on **OK** to return to the **New series** window.

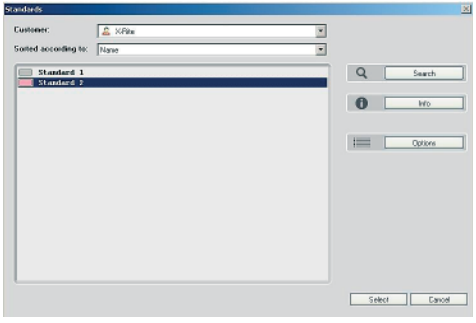




5.6.4 Loading standards

Procedure:

1. Click on **Standards** in the **New Series** window.
   This takes you directly to the "Standards" database, where you can display the standards of one particular customer or alternatively the standards of all customers.



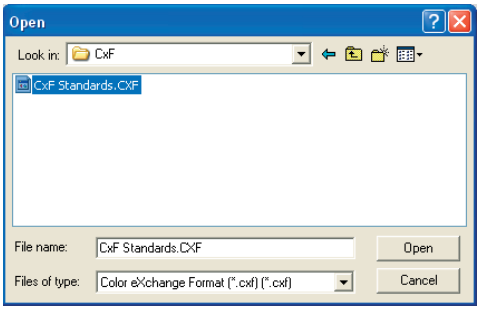
If in the list field **Customer** you select the option **All**, then the standards of all customers are displayed. To the right of job the name of the customer to whom the job is assigned appears in brackets.
If you cannot see the customer in brackets, then expand the window by dragging the sides outwards with the mouse, until they appear.

2. In the upper part of the window, under **Customer**, select the customer whose standards you want to see from the list.
3. Highlight the required standard and click on **Select** to load the selected standard and to return to the **New Series** window.

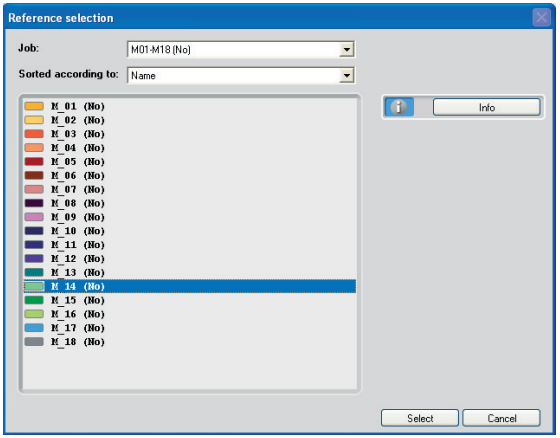
5.6.5 Loading reference colors from a CxF file

Procedure:

1. In the **New Series** window, click on **From CxF**.
   In the **Open** window, browse to find the memory location of the CxF file for connection.



2. Highlight the CxF file and click on **Open**. This will open the **Reference selection** window, in which the available colors are listed.
3. Highlight the required colors and click on **Select** to load the selected reference color and to return to the **New Series** window.



CxF files can come from various sources, e.g. from X-Rite InkFormulation or from X-Rite Color Management applications, but also from ColorQuality itself.
Otherwise, colors contained in CxF files may display deviations in measuring conditions. In this case, a corresponding warning is issued during the import process.

Caution: Be aware that color variations may result in particular from varying filter conditions! For this reason, you must be meticulously precise in ensuring that the colors to be imported have filter conditions corresponding with the job.

5.6.6 Reference and tolerance calculation

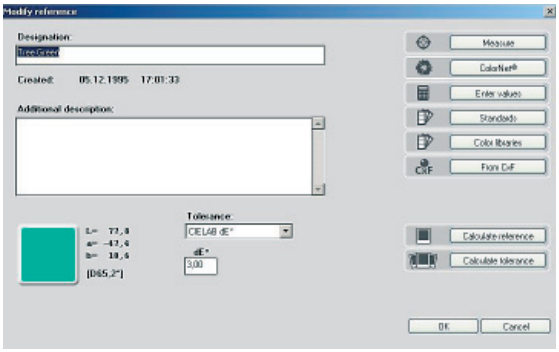
When you have measured samples, you can automatically calculate the reference and the tolerance of the series with the aid of the measuring values.

Begin by measuring all the samples with the deviations which are acceptable to your customer. Then calculate the reference and the optimal tolerance.

Procedure:

1. Define a new series and measure the samples (refer to section 5.6 “Defining a new series“).
2. Click in the main window on the **Modify current job** symbol.
3. In the **Modify current job** menu, click on the series from which you wish to calculate the reference or the tolerance..

4. Click on **Modify**. The **Modify series** window appears.
5. Click on **Calculate reference** or **Calculate tolerance**.
   The **Calculate reference** function determines the spectra of all the samples. This gives the new reference.
   The current reference is used as the basis for the **Calculate tolerance** function. The tolerance is set in such a way that all the measured samples fall within the tolerance. The calculated tolerances are dependent on the settings selected for the range of tolerances (refer to section 15.2.1 “Default tolerance“).
   You can use these two functions independently of one another.



5.6.7 Enter positionn

IIf a X-Rite SpectroScan is connected, ColorQuality saves an X/Y option to each series.

In this case, the **Position** button is displayed in the **New series** or **Modify series** window. When you define a new series (refer to section 5.6 “Defining a new series“), you will be asked to specify the position of the measuring field. Use the buttons on the SpectroScan to move to the measuring field.

The position of the measuring field can be redefined at any time in the **Modify series** window.

If a measurement is initiated in the main window or on the X-Rite Spectrolino, all the measuring fields are accessed in sequence and measured. It is important to ensure that the bow is in exactly the same location as when the position was defined.

5.7 Saving the job data to SpectroEye

You can export entire jobs from ColorQuality to X-Rite SpectroEye and then re-import them from there (refer to section 10.5 “Export job data to SpectroEye / import job data from SpectroEye“.

5.8 Quitting the job definition

In the **Job: New** window, click on **OK** when you have defined all the series and associated tolerance values required for your job. ColorQuality then generates a new job in the database. You are now ready to measure the samples of the individual series.

6 Processing an existing quality control job

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6 Processing an existing quality control job

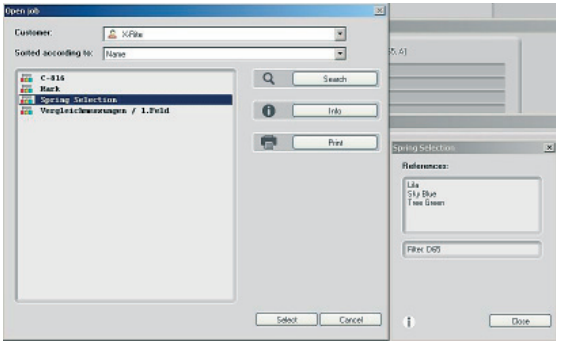
6.1 General

You can open an existing quality control job, display data and evaluate without having a measuring device connected. However, you must connect the measuring device and click on **Search** in the **Settings SPM** menu before you make changes to the current job or commence sample measurements.

6.2 Opening a job

Procedure:

1. Click in the main window on the **Open job** symbol.
   The **Open job** window will appear.
2. Select the required customer in the upper part of the window from the **Customer** list.



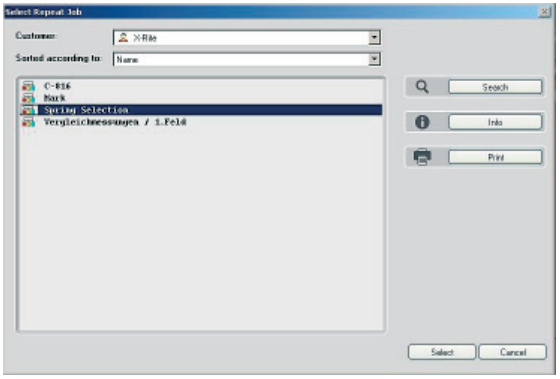
In the **Customer** list field, alongside the customers there is also the option **All**. If you select this option then the jobs of all customers are displayed.
Also, in this case, to the right of job the customer to whom the particular job belongs is shown in brackets.
If you cannot see this customer, then enlarge the window by dragging the sides of the window area outwards with the mouse until they appear.

3. Highlight the required job and click on **Select**. The job is loaded from the database.

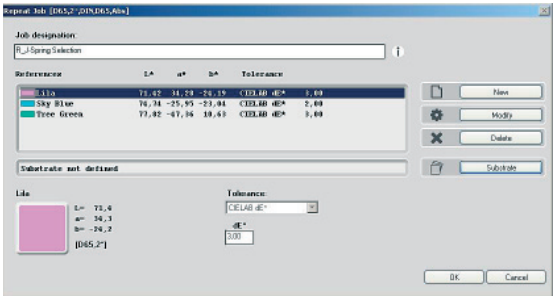
General user notice: Any time that an object has to be highlighted and then selected using **Select**, the same action can alternatively be performed in one single step, by **double clicking** on the object in question.

6.3 Opening repeat job

Procedure:



1. In the **Job** menu, click on **Repeat job**. The name of the database and the customers it contains are displayed in the left side of the **Select Repeat job** window.
2. Select the required customer in the upper part of the window in the **Customer** list.
3. Highlight the required job, for example one that must be printed with unchanged colors, and click on **Select**. The job is loaded from the database.



4. In the **Repeat Job** window that appears, if necessary, you can make adjustments to the reference colors..
   Under **Setup** you can enter a new designation for the job.

ColorQuality copies all reference colors, tolerances and the entire program configuration from that existing job, but without copying the measured samples.
The present job designation has “R_J“ placed before it as standard, to identify it as a repeat job.

5. Now click on **OK** to go directly to the main window, where you can immediately begin measuring samples.

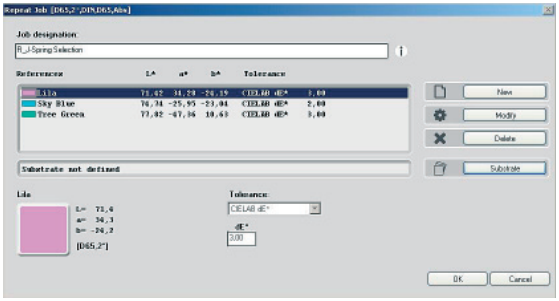
6.4 Modifying current job

If you wish to modify a current job, open it (refer to section 6.2 “Opening a job“). Then you can make the changes you require:

Procedure:

1. Click in the main window on the **Modify current job** symbol.
   The **Modify current job** window appears.

2. Make the required entries in the **Modify current job** window. Proceed exactly as for defining a new job (refer to section 5.4 “Entering job designation / job information“ and 5.6 “Defining a new series“).



For each series, the name, color values of the target color corresponding to the selected color system, the selected tolerance formula and the tolerance values are displayed on the **Series** field.

3. Click on **OK**. You are returned to the job window.

7 Measuring and processing samples

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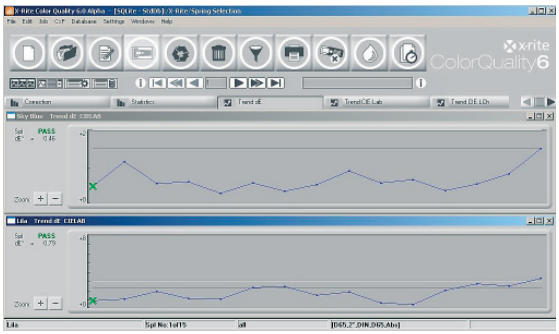
7.4 Deleting samples 61

7 Measuring and processing samples

7.1 General

If you define a new quality control job ( refer to chapter 5 “Defining a new quality control job“) or open an existing job ( refer to section 6.2 “Opening a job“) the job window is displayed. You are then ready to measure samples.

In the ‚job‘ display mode, the window of an opened job typically appears as follows for the display of various series:



Deviations can be immediately recognized with this type of display. Because of the tolerance entered, you can immediately see whether the sample is ‘Pass‘ or ‚Fail‘ or whether the process is entering a critical phase (‘Check‘).

7.2 Measuring samples

7.2.1 Assigning samples to an individual series

If you select **Automatic assignment** ( refer to section 15.1 “General settings“), the samples then measured are automatically assigned to the series with the smallest color distance.

If, for some reason, you select **Manual assignment**, ( refer to section 15.1 “General settings“), the samples then measured are automatically assigned to the active series. Therefore you must begin by selecting the required series before you can measure a sample ( refer to step 1 in section 7.3.2 “Selecting the active sample“).

7.2.2 Carrying out measurements

You can carry out single measurements or multiple measurements using average value calculations (refer to section 15.1 “General settings”).

Procedure:

1. Place the measuring device on the measuring field to be measured.
2. In the main window click on the **Measure samples** symbol.
   The measurement is carried out.

If you have selected multiple measurements, the **Averaging** window opens. Click there on **Measure** so that the measurement is started. Repeat this sequence until the set value of the measurements for the average value calculation has been reached. You then automatically return to the job window where the measuring value is displayed.

If you wish to quit the average value calculations before the set number of measurements has been reached, click on **OK**. In this case you will also return to the job window.

7.2.3 Entering a sample name

During the measurement, the current date and time is automatically displayed in the **Sample name** field. You can extend or overwrite this information at any time.

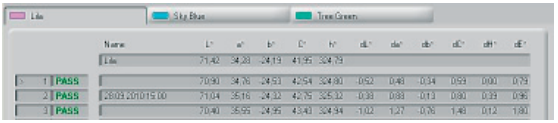
Procedure:

1. Click in the **Sample name** field.

2. Enter the name of the active sample using the keyboard.

If you wish to enter or change the name of a sample measured earlier, you must first make it active (refer to section 7.3.2 “Selecting the active sample”).

These sample designations are listed in table form in the **Name** column.



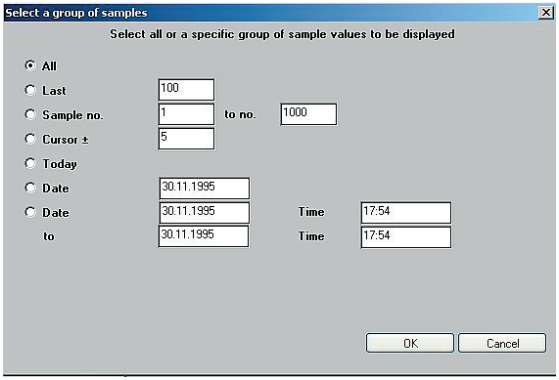
7.3 Displaying and selecting samples

7.3.1 Selecting the sample group to be displayed

Procedure:

1. In the main window click on the **Select displayed samples** symbol to open the window for choosing a sample group.

2. Select the required option.
3. Click on **OK**. The selected option is displayed in the status bar leaving only the selection samples on display.



7.3.2 Selecting the active sample

The number of the active sample is displayed in the symbols bar in the **Sample number** field. ColorQuality automatically makes the last sample measured the active sample.

Procedure to activate another sample:

1. Select the required series using one of the following options (also refer to Chapter 8 “Adapting and changing the display“):
   - For an active job display: select the required series by clicking on any location within an associated window.

You can activate one, several or all series. The series where you wish to activate a sample must be active.

   - For an active series display: Select the required series by clicking on the corresponding tab.
2. Select the required sample using one of the following options:

- Navigate through the samples using the arrow keys until you reach the required sample.
- In the **Sample-No**. Field, overwrite the sample number displayed with the new number of the sample to be activated. This activates it immediately.
- In a graph or table, click directly on the required sample.
- Use the keyboard to move through the samples:
  By holding down the “Ctrl“ key and repeatedly pressing the “→“ key, you can move through the samples in an ascending direction.

  By holding down the “Ctrl“ key and repeatedly pressing the “←“ key, you can move through the samples in an ascending direction.

  By holding down the “Ctrl“ key and pressing the “End“ key you can move to the last sample.

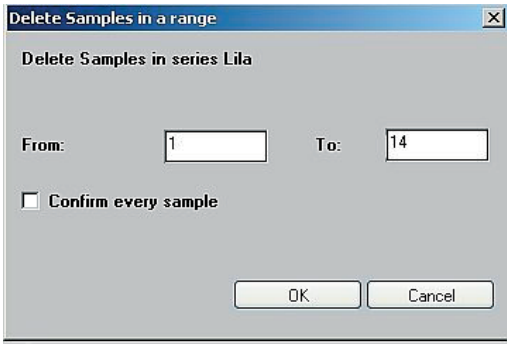
  By holding down the “Ctrl“ key and pressing the “Home“ key you can move to the first sample.

7.4 Deleting samples

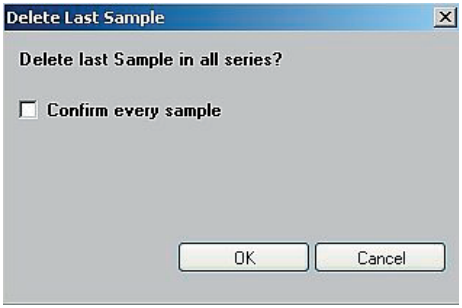
Procedure:

1. Activate one of the series from which the sample is to be deleted.
2. Select the samples to be deleted using one of the following options:
   - Activate an individual sample to be deleted and click on the **Delete** symbol.

   - If a particular field of samples is to be deleted together, then select this option from the menu under **Job > Samples > Delete samples in range**.
     This opens a window in which you can define the field you wish to delete.



   - If just the last sample in all series is deleted at any one time, select this option from the menu under **Job > Samples > Delete last sample in all series**.
   - Confirm delete in the window that appears.



8 Adapting and changing the display

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8 Adapting and changing the display

8.1 Switching between job display and series display

Procedure for changing the display mode:

1. To select the **Job** display mode, click on the "Job" symbol in the main window.
   In this mode, more than one series of a job can be displayed at the same time.
2. To select the **Series** display mode, click on the "Series" symbol in the main window.
   In this mode, a series is shown in more than one display.

The mode that is currently selected is shown by the symbol button being inset (pressed in). Also, when job display is activated, the heading "Job" appears on the status bar, while when series display is activated the heading "Series" appears.

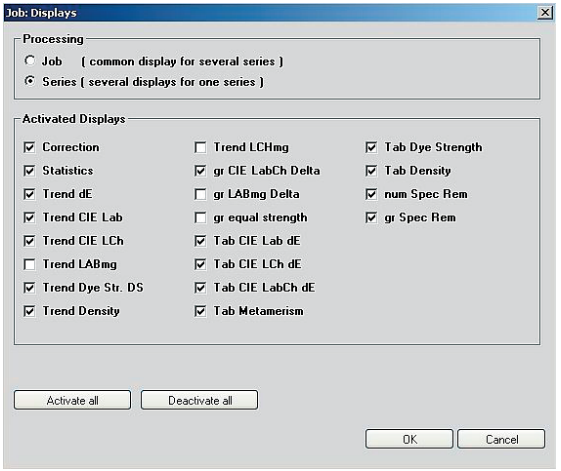
8.2 Selecting the type of display

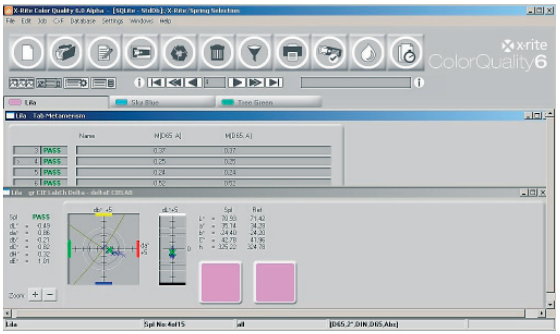
8.2.1 Selecting the type of display for an active series display

Procedure:

1. In the main window, click on the Displays button.
   The window **Job: Displays** comes up.
2. In the **Activated Displays** list, activate those display types that you wish to display on the screen. Do this by clicking on the square control boxes.

The display mode which is selected here applies only to the job which is currently open. To assign your preferred displays for general use, the settings must be made on the **Settings > Displays** menu.
Jobs that have been saved are not affected, but by using the **Apply settings to 'New job'** button you can specify that your preferred views be assigned to new jobs.





3. Click on **OK**. The activated display types are displayed in the job window for the selected series..

8.2.2 Selecting the type of display for an active job display

Procedure:

1. Activate the required display type by clicking on one of the tabs directly above the job window.
2. If not all preselected display types are visible in the main window, you can use the arrow keys to bring the hidden display types back into the window.
   As an alternative to this, you can also select the required display type from a list by using the list symbol.

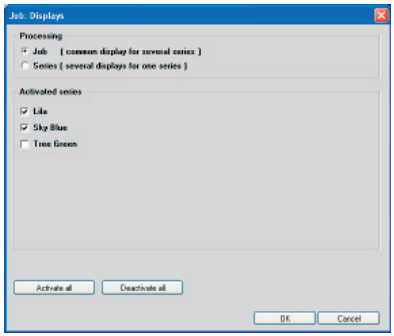
If, when you are working, you cannot see a display type on the list opened using the list symbol described above, then the reason is that this display type has not been activated on the **Settings > Displays** menu.
The display type can be activated there at any time and will then be available for selection on the list.

8.3 Selecting the series to be displayed

8.3.1 Selecting the series for an active job display

Procedure:

1. In the main window, click on the **Displays** button.
   The **Job: Displays** window appears.
2. In the **Activated series** list, activate those series that you wish to activate by clicking on the square control boxes. You can activate or deactivate all series by clicking on **Activate all** or **Deactivate all**.
3. Click on **OK**. The selected display mode is shown in the job window for all activated series.

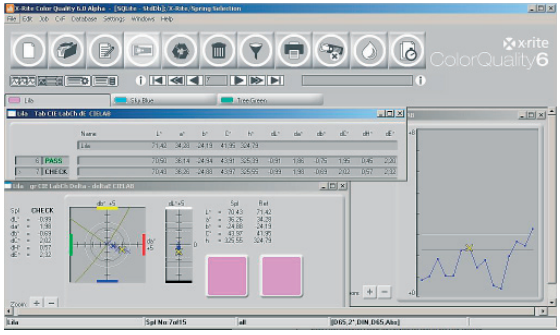


If, when you are working with job display activated, no series is displayed (blank main window), then the most likely reason is that, whether intentionally or unintentionally, no series has been activated in the window described above (all control boxes are deactivated).

8.3.2 Selecting the series for an active series display

Procedure:

1. Select the required series by clicking on one of the tabs directly above the job window.
2. If not all series are visible in the main window, you can use the arrow keys to bring the hidden display types back into the window.
   As an alternative to this, you can also select the required display type from a list by using the list symbol.



8.4 Changing the display configuration

8.4.1 Zoom

By using the Zoom button in the Trend display, you can change the displayed measuring range step by step.

Procedure for changing the measuring range using Zoom:

1. Select the window containing the required display by clicking anywhere in the window.
2. If you wish a smaller measuring range, click on the left button + . Alternatively, click on the right button − , if you wish to display a larger measuring range. Each click reduces or increases the measuring range by one step. Click as often as necessary until you obtain the required size of measuring range.

8.4.2 Arranging the windows

The arrangement of the windows can be specified on the **Windows** menu. You can choose from the following display types:

- Overlapping
- Side by side
- Horizontal split
- Vertical split

You also have the option of arranging the windows exactly as best meets your needs. You can then give this view a name and save it as a preset setting. You are not restricted to just one preset setting, but instead more than one user-specific window arrangements can be saved, each corresponding to specific requirements. The required display type can be quickly and easily applied to the currently open job by selecting an item from a list. In addition, a particular display type can be saved as a general preset setting, which can then be applied, for example, to new jobs. In this context, please also note the further explanations in section 15.7 “Windows“.

Please do not confuse the options available on the **Window**s menu with those on the **Settings > Displays** menu.

While the **Settings > Displays** menu defines **which** display types should be shown, the **Windows** menu defines **how** those display types should be shown.

9 Quick compare mode

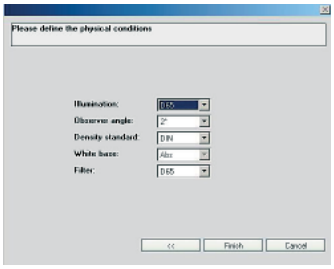
9 Quick compare mode

In **Quick compare** mode, you can very quickly compare a given reference value with sample measurements.
In the event that a job that is selectively assigned to a customer, does not initially have to be opened, the user is immediately enabled for measuring.
This mode is therefore designed for situations in which colors need to be compared simply and quickly and without complicated processes.
Since permanent logging of measuring data is not really the main purpose of this procedure, in this mode it is assumed that a series of measurements are only to be temporarily recorded and then discarded once the work in complete.
However, the option of transferring documented measurements to a job once it is completed is still available.

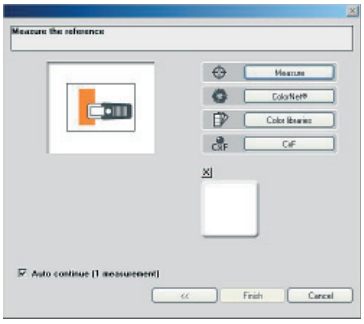
Procedure:

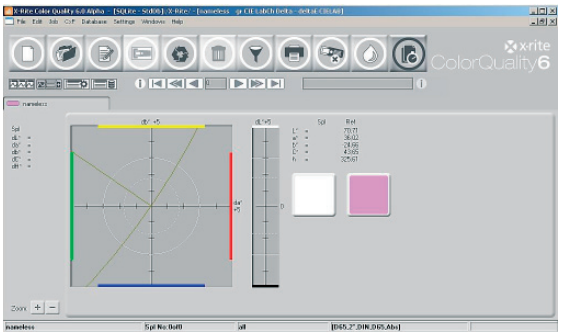
1. In the main window, click on the **Quick compare** symbol to the far right of the window.

The **Measuring conditions** window appears.



2. Check the measuring conditions, adjust the possible presettings as required and click **OK** to confirm. The **Reference** window appears.





3. Measure the reference, either by measuring or by loading an available saved reference using ColorNet. Next, the main window is displayed taking into account the preset views.

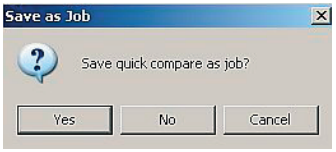
Even in **Quick compare mode**, the full functional range of ColorQuality is available. You can define which displays should appear in the menu under **Settings > Displays**.
Also in this mode, you can switch between the display modes **Job** and **Series**.

4. Now begin recording the sample measurements. You can initiate the measurements either using the **Measure sample** symbol or, alternatively, directly with the measuring device.

In order to be able to initiate measurements directly using the measuring device, you must activate the option “Initiate measurement also by SPM“ in the menu under **Settings > General**.

5. Once the series of measurements has been completed, close the **Quick compare** mode by clicking on the corresponding symbol again.

The **Save as job** window appears.



6. Decide whether you wish to retain or discard the measuring data.
   If you wish to save the data, then you can do so by clicking on **Yes** to convert the measurement series into a job. This, like any other job, needs to be assigned to a customer.
   If you decide that you do not want to retain the documented measuring data, click on **No** to discard the measurement series.

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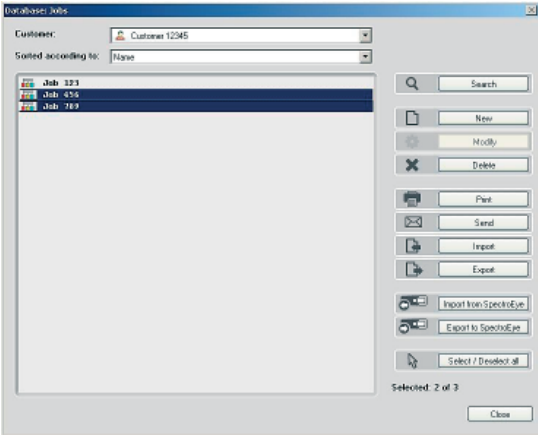
10 Managing jobs

10.1 Deleting jobs

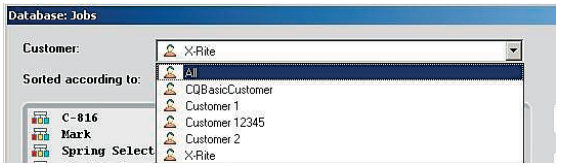
Procedure:

1. In the **Database** menu, click on **Jobs**. The **Database: Jobs** window is displayed.



2. Select the customer whose job needs to be deleted in the upper part of the **Customer** list field.

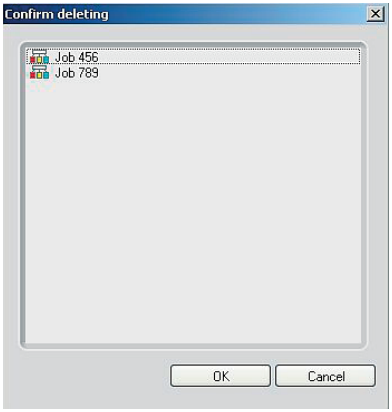
In the **Customer** list field, alongside the customers there is also the option **All**. If you select this option, the jobs of all customers are displayed.



Moreover, in this case, to the right of job the name of the customer to whom the job belongs is shown in brackets
If you cannot see these customer names, then expand the window by dragging the sides outwards with the mouse until they appear.

3. Highlight the jobs for deletion.

You can perform multiple selections by holding down either the “Shift“ key or the “Ctrl“ key during highlighting with the mouse.
To highlight all jobs together, click on the **Select / Deselect** all button.



4. Click on **Delete**. The jobs to be deleted appear in the **Confirm deleting** window.

5. If you wish to delete the jobs, click on **OK**..

10.2 Exporting job data by e-mail

In the **Database: Jobs** window, you can select one or more jobs and then click on **Send** to export them by e-mail (refer to section 3.8.3 “E-Mail“).

10.3 Exporting job data

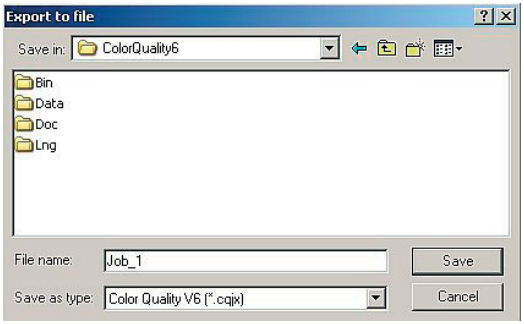
Procedure:

1. In the **Database** menu, click on **Jobs**.
2. Select the customer from whom you wish to export a job. The job list is displayed in the center of the window.t
3. Click on the job that you wish to export.

You can select more than one job at a time. These will be written into the same file when exported. In this case, in the **Export to file** window you must enter a file name under which the data will be exported.

You can use Drag & Drop to drag jobs directly into an Explorer window (also refer to section 3.8.2 “Drag & Drop“).

4. Click on **Export**. The **Export to file** window appears.
5. Choose the save location to which you wish to export the file.



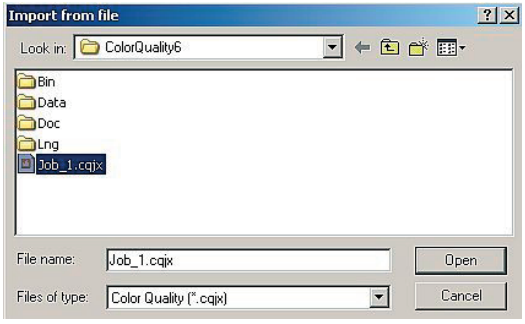
You can also export jobs using formats from older ColorQuality versions or in CxF format. To do this, select the corresponding option in the **Save as type field.**

6. Click on **Save**. The file is exported.

10.4 Importing job data

Procedure:

1. In the **Database** menu, click on **Jobs**. The **Database: Jobs** window is displayed.
2. Select the customer to whom you wish to assign the file in the upper part of the window in the **Customer** list field.
3. Click on **Import.** The **Import from file** window appears.
4. Select the location from which you wish to import the file.
5. Highlight the file to be imported.
6. Click on **Open**. The file is imported and its name appears in the list of jobs.



10.5 Export job data to SpectroEye / import job data from SpectroEye

You can save complete jobs from ColorQuality on a connected X-Rite SpectroEye spectrophotometer, and also import them back again from there.

Procedure for exporting:

1. In the **Database** menu, click on **Jobs**.
2. In the **Database: Jobs** window, select the customer from whom you wish to export a job. The list of jobs is displayed in the center of the window.
3. Highlight the job that you wish to export to SpectroEye.
4. **Click** on the 

button, then follow the instructions.

ColorQuality assigns unique names to the files to be exported. If a job is to be overwritten in SpectroEye, enter the name of the job to be overwritten. The overwrite must then be confirmed.

Procedure for importing:

1. In the **Database** menu, click on **Jobs**.
2. In the **Database: Jobs** window, select the name of the customer to whom you wish to assign the file.
3. **Click** on the 

button, then follow the instructions.

11 Modifying standards and creating new standards

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11 Modifying standards and creating new standards

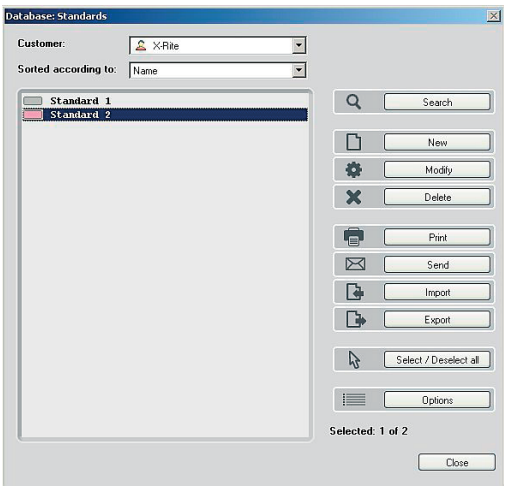
11.1 General

A standard is a target color with its entered tolerance. If you wish to use a target color as a reference color in several jobs, then you should define it in the database standards. A standard is always assigned to a customer so that you can find it more easily.

11.2 Opening database standards

Procedure:

1. In the **Database** menu, click on **Standards**. If necessary, carry out a white calibration on your measuring device (refer to section 4.2 "Perform a white calibration of the measuring device"). Then you are in the **Database: Standards** window.



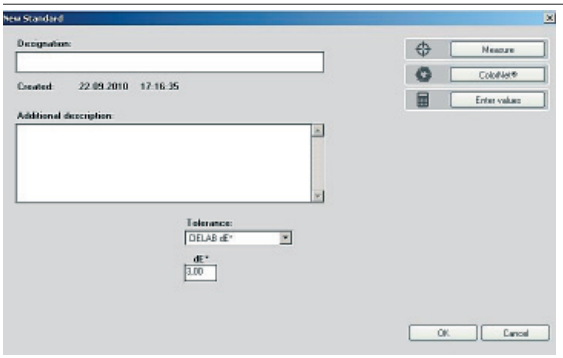
In the **Customer:** list field, alongside the customer names there is the option **All**. Selecting this option displays the standards of all customers.
Also, in this case to the right of job the customer to whom each standard belongs is shown in brackets.
If you cannot see these customer names, then expand the window by dragging the sides outwards with the mouse until they appear.

11.3 Defining standards

You can measure standards with the measuring device, load them using ColorNet, load them using CxF or enter them as values using the keyboard.

Procedure:

1. In the **Database: Standards** window, select the customer to whom you wish to assign the standard.

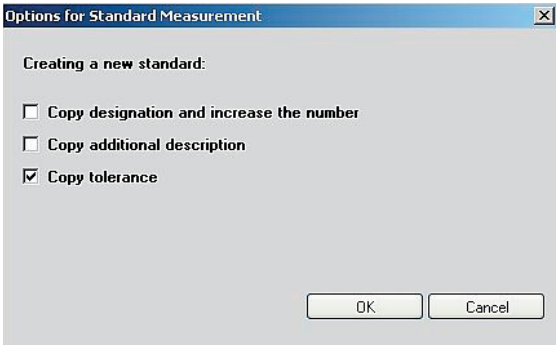


When you have selected the options for measuring the standards (refer to section 11.4 “Defining the settings for standards registration“), you must also select the standard from which you wish to accept a designation, an additional description or a tolerance.

2. Click on **New.** The **New Standard** window appears.
3. Define the tolerances and standard. Proceed as for the definition of a new series (refer to section 5.6 “Defining a new series“).
4. If necessary, change the automatically-selected designation and enter a supplementary description.
5. Click on **OK** in order to return to the **Database: Standards** window.

11.4 Defining the settings for standards registration

Procedure:



1. In the **Database: Standards** window, click on **Options**. The **Option for Standard Measurement** window appears.
2. Activate the required control boxes:
   - **Copy designation and increase the number:** When you have provided your standards with a permanent name and a run number, this option automatically accepts the name for the new standard and increments the run number by one.
   - **Copy additional description:** ColorQuality accepts the once-only entered notice of the selected standards. This saves you having to repeat notice entries.
   - **Copy tolerance:** This allows rapid entry of standards which have the same tolerances. ColorQuality accepts the tolerance of the selected standards. The standard tolerance is accepted if this option is disabled (refer to section 15.1 “General settings“).

These options are only executed if you have selected an existing standard before you define a new standard.

11.5 Deleting standards

Procedure:

1. In the **Database: Standards** window, select the customer associated with the standard to be deleted. The list of standards is displayed in the center of the window.
2. Highlight the standard that you wish to delete.
3. Click on **Delete.** The **Confirm deleting** window appears.
4. Click on **OK**.

You can perform multiple selections by holding down either the "Shift" key or the "Ctrl" key while highlighting the standards with the mouse. To highlight all standards together, click on the **Select / Deselect all** button.

11.6 Exporting standards data by e-mail

In the **Database: Standards** window you select one or more standards and then export them by e-mail by clicking on **Send** ( refer to section 3.8.3 "E-Mail").

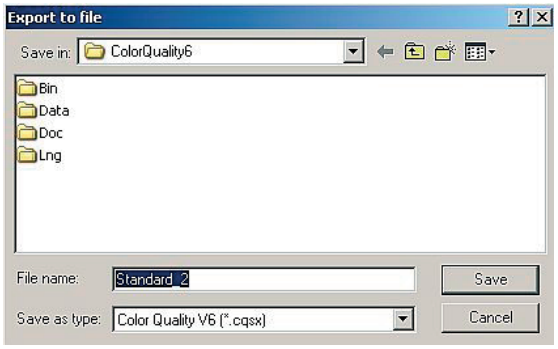
11.7 Exporting standards data

Procedure:

1. In the **Database** menu, click on **Standards**.
2. Select the customer from whom you wish to export the standards. The list of standards is displayed in the center of the window.
3. Click on the standard that you wish to export.

You can also select several standards at the same time. They will be written into the same file when exporting. In this case, in **Export to file** you must enter a file name under which the data is to be exported.

You can use Drag & Drop to drag standards direct to an Explorer window (also refer to section 3.8.2 “Drag & Drop“).

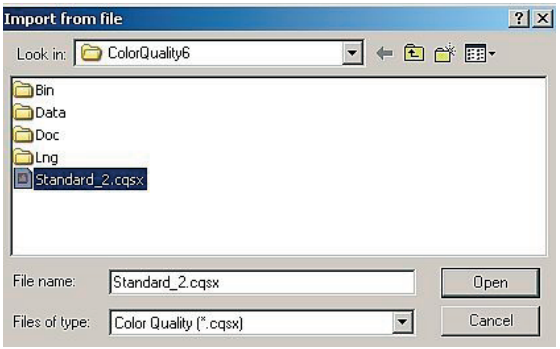


4. Click on **Export.** The **Export to file** window appears.
5. Choose the location to which you want to export the file
6. Click on **Save**. The file is exported.

11.8 Importing standards data

Procedure:

1. In the **Database** menu, click on **Standards**.
2. Select the customer to whom the standard is to be assigned.
3. Click on **Import**. The **Import from file** window appears.
4. Choose the location from where you wish to import the file.
5. Highlight the required file.
6. Click on **Open**. This imports the file whose name appears in the list of standards.



12 Modifying customers and entering new customers

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12 Modifying customers and entering new customers

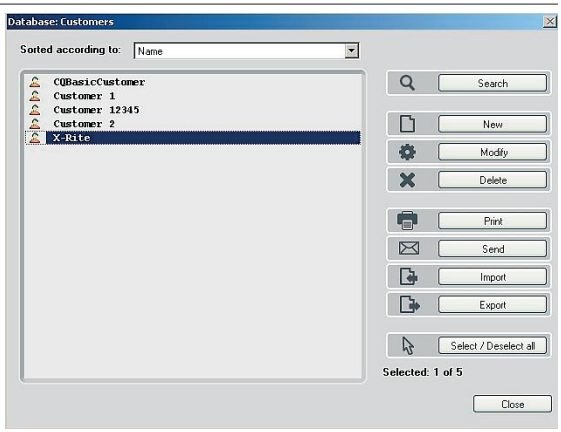
12.1 General

To enable you to arrange your data (jobs, standards, customers) in the database, the jobs are sequenced according to customer. It is therefore necessary to begin by entering the customer name and any additional information in the database before you can assign the data to a job or a standard.

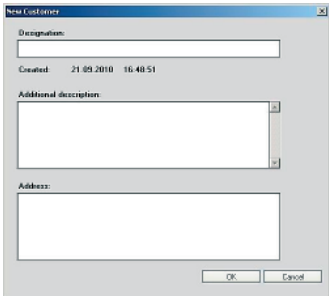
12.2 Entering a customer

Procedure:

1. In the **Database** menu, click on **Customer**. The **Database: Customer** window appears.



2. Click on **New**. The **New customer** window appears.
3. Click in the **Designation** field and use the keyboard to enter the customer designation.
4. In the **Additional description** and **Address** fields you can make the corresponding entries if required.
5. Click on **OK** when you have completed your entries..



12.3 Deleting a customer

If a customer no longer has any open jobs or any jobs that must be processed, the customer can be deleted. Note that if you do this, all associated jobs and standards will also be deleted.

Procedure:

1. In the **Database** menu, click on **Customer.**
2. Highlight the customers you wish to delete.
3. Click on **Delete**. The **Confirm deleting** window appears.
4. Click on **OK**.

If the client still has jobs and standards allocated, the warning appears indicating that the customer cannot be deleted so long as there are still jobs or standards allocated to him.

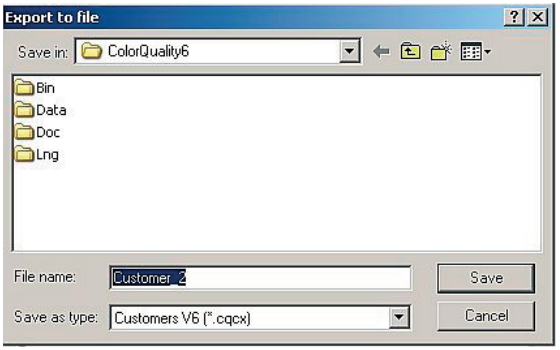
12.4 Exporting customer data by e-mail

In the **Database: Customers** window you can select one or more customers and then export them by e-mail by clicking on **Send** (refer to section 3.8.3 “E-Mail“).

12.5 Exporting customer data

Procedure:

1. In the **Database** menu, click on Customer.
2. In the **Database: Customers** menu, select the customer that you wish to export.



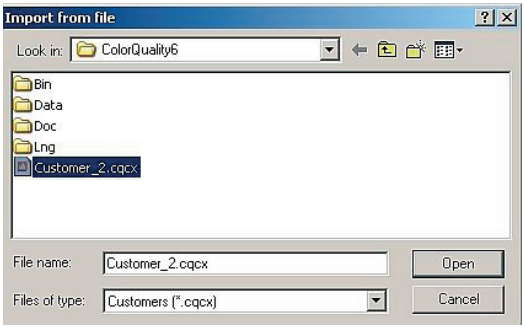
You can also select several customers at the same time. They will be written into the same file when exporting. In this case, in Export to file, you must to enter a file name under which the data should be exported.
You can use Drag & Drop to drag a customer directly into an Explorer window (also refer to section 3.8.2 “Drag & Drop“).

3. Click on **Export**. The **Export to file** window appears.
4. Choose the location for the exported customer file.
5. Click on **Save**. The file is exported.

12.6 Importing customer data

Procedure:

1. In the **Database** menu, click on **Customer**.
2. Click on **Import**. The **Import from file** window appears.
3. Choose the location from where you want to import the file.
4. Highlight the required file.
5. Click on **Open**. The **Confirm import** window appears.
6. Click on **OK**. The file is imported. The name appears in the list of customers in the **Database: Customers** window.



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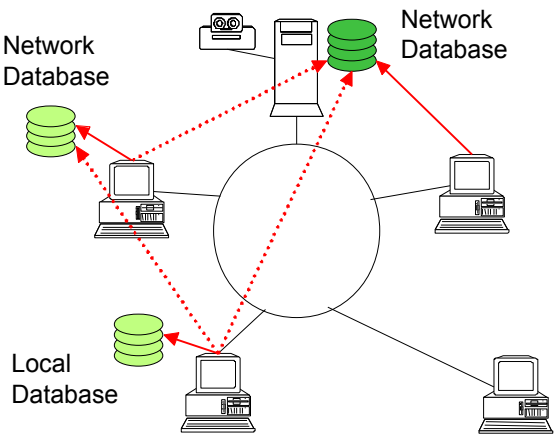
13 Creating and managing databases

13.1 General

A database can be opened at the same time by a number of ColorQuality programs running on different computers or on the same computer. Simultaneous access to the same database object is prohibited by ColorQuality.

In a network, a common database can be created on any of the network computers. However, for reasons of data security, it is preferable for the common database to be created on a file server.



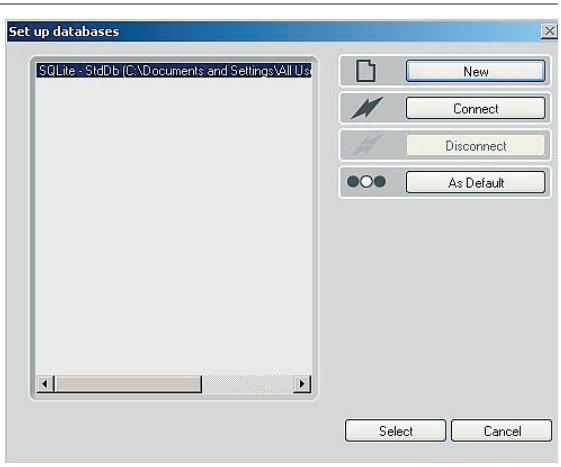
13.2 Creating a new database

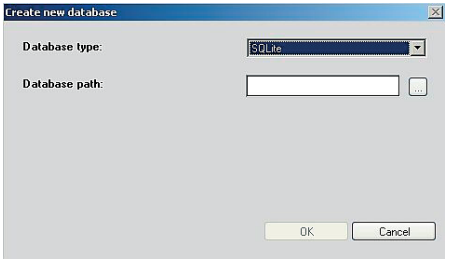
When you first start ColorQuality after installing the program, the empty **Set up databases** window is displayed. This requires the user to construct an initial database. The database can be constructed locally on the computer or at a user-defined location.

If required, you can construct further databases later that are fully independent from one another.

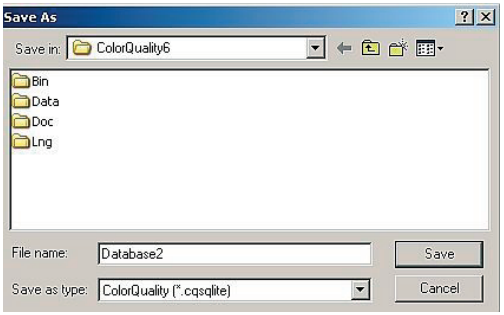
Procedure:

1. In the **Database** menu, click on **Organize**. The **Set up databases** window is displayed.

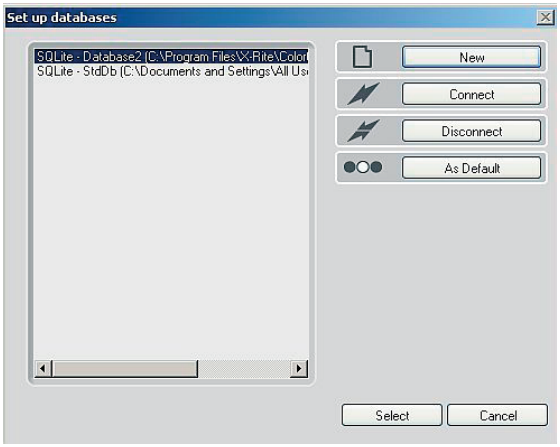




2. Click on **New**. The Create **new database** window appears.



3. Under **Database path** click on the [...]. button. The **Save as** window appears.
4. In Windows Explorer, navigate to the location where the new database is to be created and under **File name** enter a designation for the database.



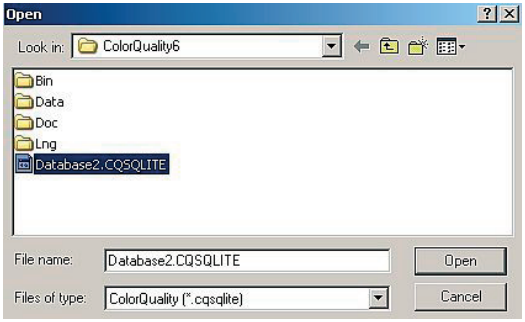
5. Click on **Save** to create the database. It will appear in the **Set up databases** window.
6. Highlight the database and click on **Select** to make it an active database.

13.3 Linking an existing database

To allow access to an existing database, it must be linked to ColorQuality.

Procedure:

1. In the **Database** menu, click on **Organize**. The **Set up databases** window is displayed.
2. In the **Set up databases** window, click on **Connect**.
3. Navigate in Windows Explorer to find the location of the database you wish to connect.
4. Highlight the database and click on **Open**.
5. In the **Connect to database** window, click on **OK**. This displays the database name in the **Set up databases** window.
6. Highlight the database and click on **Select** to make it an active database.



13.4 Disconnecting a database

If a directory is no longer required, it can be closed. The database is not deleted and it can be reactivated at any time by selecting **Connect**.

Procedure:

1. In the **Database** menu, click on **Organize**. The **Set up databases** window is displayed.
2. Highlight the database you wish to remove.
3. Click on **Disconnect**. This will delete the name of the database from the list. However, the database remains intact in its location and can be reached again if required.

In order to definitively delete a database, the database file must be deleted from Explorer. But this should only occur once all workstations connected to this database have been removed from the database.

13.5 Creating a common database in a network

To create a database in the network, which can be accessed through several workstations together, proceed as follows:

- Create a new database by clicking New in the **Set up databases** window (Menu **Database > Organize**) (see section 13.2 “Creating a new database“).
- In Explorer, browse the network location where the shared database should be created. Alternatively, you can also enter a network path, so long as the network resource really exists and is accessible.
- Enter a name for the new database, then click **OK**.

In order to access the network database from another computer, use the **Connect** command in the **Setup databases** window (Menu **Database > Organize**) to connect the database (refer to section 13.3 “Linking an existing database“). As the path for the database, enter the same path that you specified when you created the database.

13.6 Backing up your database

X-Rite strongly recommends to its customers that they regularly save the customer-supplied ColorQuality Data in their own interests and for their own security, either on a server or an common storage medium.

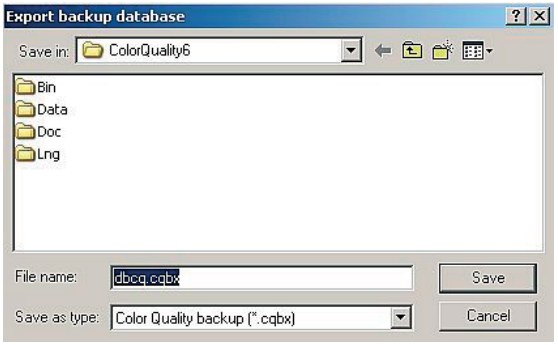
Procedure:

1. If you have a job open, close it by selecting the **Close** option in the **Job** menu.

It is important to be very aware during the procedure described below that you only save the data in the database that is currently connected. If there are several databases, you must carry out the backup process for each individual database. To do this, you must first highlight and select the database in the menu under **Database > Organize**.

2. In the **File** menu, click on **Database**.

3. In the selection field, click on **Backup**. The **Export backup** database window appears.
4. Navigate in Explorer to find the location to save the backup.
5. Give the backup file a name and click on **Save**.



Alternatively or additionally, you can also save a ColorQuality Database in which the corresponding database files are copied to another location using Explorer. This is a considerably quicker way of saving, especially if there is a large volume of customer data.
If required a database saved in this way can easily be copied back to its original location and reconnected if necessa (see also section 13.3 “Linking an existing database”).

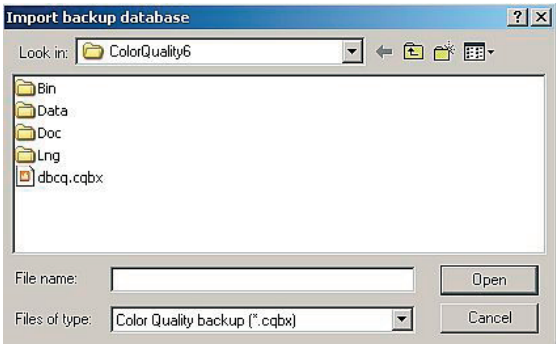
13.7 Restoring your database

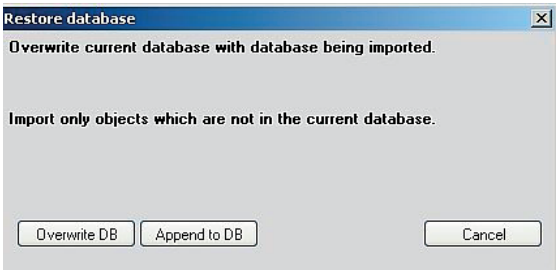
Procedure:

1. If a job is currently active, close it by clicking on **Close** in the **Job** menu.
2. In the **File** menu, click on **Database**.

It is important to be very aware during the procedure described below that you only resave the data in the database that is currently connected. If there are several databases, you must first highlight and select the database in which the backup files are to be saved in the menu under **Database > Organize**.

3. In the selection field, select the **Restore** option. The **Import backup database** window appears.
4. Navigate in Explorer to the location where the backup used to restore is saved.
5. Highlight the backup file. It now appears in the **File name** field.





6. Click on **Open**. The **Restore database** window appears.

If you want to add the backup data for importing to the currently connected database, select **Append to DB**.
If you want to completely replace the data in the currently connected database with the backup data, select **Overwrite DB**. You will be informed that all data stored in the connected database will be lost, i.e. it will be overwritten by the backup data.

7. Select the required option.
   The **Import backup database** information window appears and the database is updated or overwritten.

14 Printing

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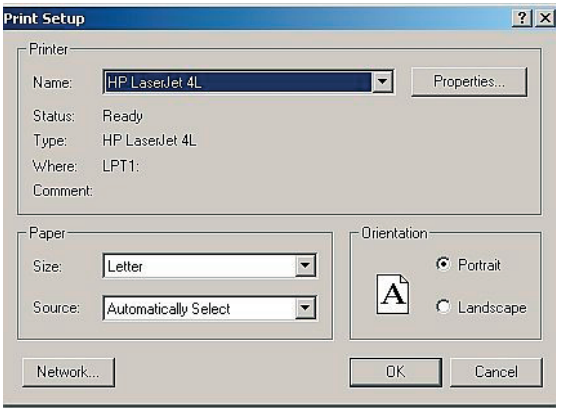
14 Printing

14.1 Printer setup

Procedure:

1. In the **File** menu, click on **Set up printer** in order to display the system window for the printer setup.
2. Select the required printer.
   Depending on which printer you are using, you may have an opportunity to select options, such as portrait or landscape, paper size and paper feed.
3. Click on **OK** to confirm the selection and to return to ColorQuality.

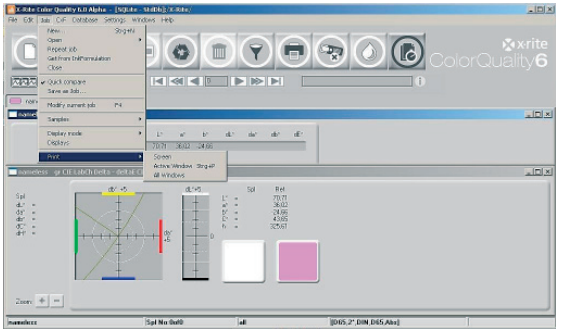


14.2 Printing

14.2.1 Printing from the job window

Procedure:

1. In the **Job** menu, select the menu option **Print.**
2. From the sub-menu, select the required option:
   - Screen
   - Active window
   - All windows



14.2.2 Printing from the database

You can print data and lists of customers, jobs and standards from the database.

Procedure:

1. In the **Database** menu, select the entry from which you wish to print the data: **Jobs**, **Standards** or **Customers**.
2. In the **Database: Jobs** window, select the customer whose job you wish to print and highlight the jobs to be printed.
   or
   In the **Database: Standards** window, select the customer whose standards you wish to print, and highlight the standards to be printed.
   or
   In the **Database: Customers** window, select the customers whose data you wish to print out.
3. Click on **Print**. The selected data is printed.

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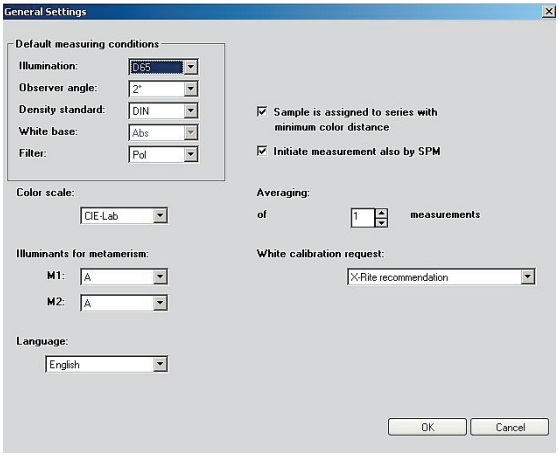
15 Settings to make

15.1 General settings

Procedure:

1. In the **Settings** menu, click on **General**.
2. Either select the options you require or make the required entries (refer to the following sections).
3. After you have entered all your settings, click on **OK**.



15.1.1 Default measuring conditions (illumination, observer angle, filter)

Here, you can define the required standard measuring conditions for your jobs. When new jobs arrive, these conditions are suggested as default settings, but can still be altered if required when opening jobs.
The following measuring settings can be installed here:

- illumination,
- observer angle,
- density standard,
- filter.

Be particularly careful and precise when exchanging color data that the measuring conditions correspond. Only when measuring conditions match can colorimetric values be compared. If measuring conditions do not match (e.g. when importing color data) ColorQuality issues a warning message.

15.1.2 Color Scale

You can choose among various color systems such as CIE-Lab and CIE-LCH. Depending on the options you selected, e.g., LCH values may be displayed instead of Lab values at various points in the program. The color system can be repositioned if required, since only the display is affected.

15.1.3 White calibration request

If you choose the **Recommendation** option, ColorQuality will require you to perform a white calibration at various points in the course of the program, depending on the measuring device used (refer to section 4.2 “Perform a white calibration of the measuring device“).

If a X-Rite SpectroEye is connected, there will be no requirement to perform white calibrations, since this measuring device calibrates automatically.
If you select the **never** option, no requests will be made. In this case it is up to you to ensure that the measuring device is correctly calibrated.

15.1.4 Averaging

Depending on the homogeneity of your patterns, you can perform single or multiple measurements with average value calculations. In the average calculations field, enter the number of measurements (if possible, a number between 1 and 10) that you wish to carry out for the measurement of a sample or a pattern.
If you have entered a number > 1, the measuring value averaging window appears after the start of each measurement. The current measuring value and the current average value are displayed in this window. If the middle value appears sufficiently stable to you, you can finish measuring at any point by clicking **OK**. The accepted measuring value corresponds to the average of the performed measurements.

If you require a single measurement, enter **1**.

15.1.5 Language

If required, you can select another language. Since it is not possible to change the language while a program is running, the program must be closed then restarted so that the selected language becomes active.

15.1.6 User name

The text (e.g., your company name) that you enter into this field is used as the header when printing the job window.

15.1.7 Measurement initiation

If the Initiate **measurement also by SPM** control box is activated, the measurement can be started either in ColorQuality or at the measuring device. If deactivated, the measurement can be started in ColorQuality only.

15.1.8 Assignment of individual samples to series

IIf the **Sample is assigned to series with minimum color distance** checkbox is activated, then an automatic assignment of samples takes place. If deactivated, then the assignment is carried out manually.
If the measuring fields to be monitored differ from one another sufficiently strongly in color, ColorQuality can undertake the assignment of the samples automatically. Following the measurements, ColorQuality automatically activates the closest series in terms of color. The automatic assignment is the simplest and most user-friendly type of assignment.

If the measuring fields to be monitored are very close to one another in terms of color, then ColorQuality can no longer correctly assign the relevant series under the circumstances. In this case, you must deactivate the **Sample is assigned to series with minimum color distance** option and manually select each series before measurement in the main window.

15.1.9 Metamerism

In fields **M1** and **M2**, you can select two types of light that should be used for metamerism observations in relation to the present job light. In the metamerism display in the job window, the metamerism index is then displayed against the corresponding type of light.

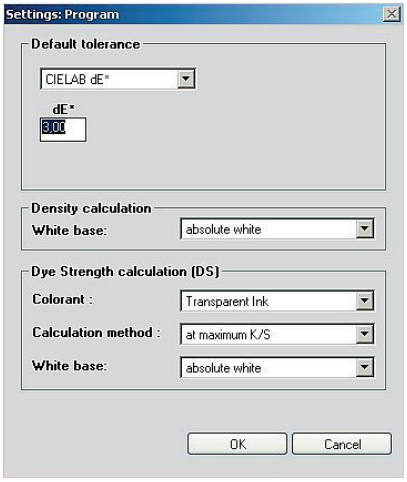
The types of light used are

D65	Daylight (6500 Kelvin)
D50	Daylight (5000 Kelvin)
A	Artificial (tungsten filament) light
F11 / TL 84	Department store light

15.2 Settings program

Procedure:

1. In the **Settings** menu, click on **Program**.
2. Select the required options or enter the required value (refer to the following section).
3. Click on **OK** when you have entered all the settings.



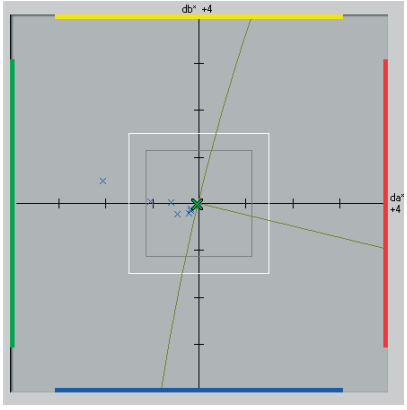
15.2.1 Default tolerance

The tolerance formula selected here and the associated standard values are recommended by ColorQuality when defining a new series or a new standard.

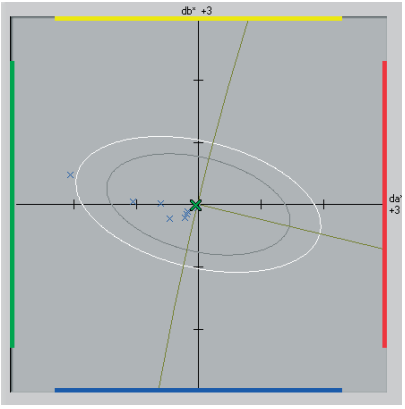
The tolerance value determines the maximum acceptable color distance between the reference color and the samples of a series.

CIELAB dLab tolerances:

Different tolerances can be entered for positive and negative dLab values.



CIELAB dLCH elliptical tolerances:
Different tolerances can be entered for positive and negative dLCH values. The tolerance is determined by an ellipsoid, which is bounded by the dL-dC-dH cuboid.



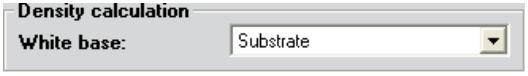
LABmg:
An additional color space with tolerance definitions similar to CIELAB.
CMC l:c, dE*94, dE*2000, FMC II:
Special calculation formulas for color distance, based on the CIELAB color space. For further information, please refer to the relevant technical literature.

With the dE formulas CMC l:c dE, dE*94 and dE 2000, compared to the formula CIELAB dE*, it is a question of "corrected" formulas, i.e. of formulas that through additional factors within the formula make the size of the issued Delta E fit better with the visual perception of the eye.
For further explanations on this point and to help you decide which dE formula to select in which case, please also read section 17.3 "Color distance formulas"

Density dD
A standard tolerance can be entered for each density filter. The density filter with the highest density (auto density) of the series is used for the density tolerance calculation.

15.2.2 Density calculation

The density is calculated in relation to the substrate (paper) or to absolute white.



If **Substrate** is selected as white reference, the density values are calculated on the basis of the paper. To do this, the substrate must be evaluated during the job definition process (refer to section 5.6 "Defining a new series" or section 6.4 "Modifying current job").

This kind of paper measurement has no influence on colorimetric values, as these are always based on absolute white. For this reason, the substrate for colorimetric measurements must not be measured.

15.2.3 Dye strength calculation

ColorQuality gives the dye strength as the value of the function K/S, where K signifies light absorption and S signifies light scatter.
The value K/S for the absolute dye strength serves as a measure of quality and as an aid to color production and mixing. The calculated K/S value is proportional to the color concentration.
The relative dye strength is indicated as the relationship of K/S value of sample and reference color. The relative dye strength indicates whether a color is available in sufficient concentration and the concentration in which a color has to be produced in order to approximate as close as possible to your target color.

Colorant

Depending on your application, select between

- transparent ink and
- opaque ink..

Offset colors are transparent in most cases. By mixing in opaque white, opaque ink layers can be created, e.g., for packing and label printing.

Calculation method

Depending on your application, select the calculation method

- at maximum K/S or
- xyz-weighted K/S.

The dye strength can be calculated under various conditions. The calculation at the absorption maximum is displayed for comparing the dye strength of dyes with the same pigments. If the pigments differ substantially, then select the method with the CIExyz-weighted dye strength.

White base

You must take the **substrate** into account the substrate when calculating the dye strength. ColorQuality therefore offers you two possibilities::

- **Substrate:** The substrate which can be evaluated during job definition is used for the calculation (refer to section 5.6 “Defining a new series“ or section 6.4 “Modifying current job“).
- **Absolute white:** ColorQuality uses an ideal white background (100 % remission) for the calculation.

15.3 Settings measuring device

Using the **Settings SPM** menu, you can determine the measuring device interface and select the option for the maximal transfer rate. The following measuring device data is also displayed:

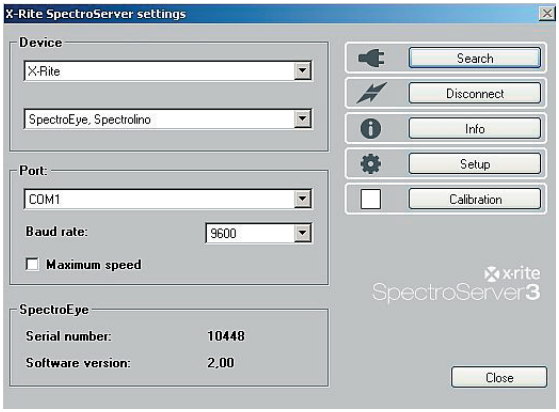
- port
- baud rate
- device type
- serial number
- software version

15.3.1 Selecting the interface

ColorQuality is capable of automatically recognizing the interface you selected. Normally you will not need to make use of this selection sequence.

Procedure:

1. In the **Settings** menu, click on **SPM**. The **SpectroServer Settings** window appears.
2. From the list under **Device**, select the device type that is currently connected.
3. Click anywhere in the **Port** field. An interface selection list appears. Provided that you are absolutely certain, you can select the corresponding COM interface directly. If you are not certain, choose **Automatic search**. A search is made for the interface, which appears in the **Port** field.
4. By clicking on **Calibration**, you have the option of calibrating the attached spectrophotometer.
5. Depending on the attached measuring instrument, you can conduct additional installations **Setup** if required.
6. Click on **Close** to confirm your selection.



15.3.2 Maximum transfer rate

If you click on the **Maximum speed** control box, your measuring device is set to a higher transfer rate. Do not select this option if your measuring device is being used with a printer or other device which has a lower transfer rate. Please refer to the operating instructions for the measuring device.

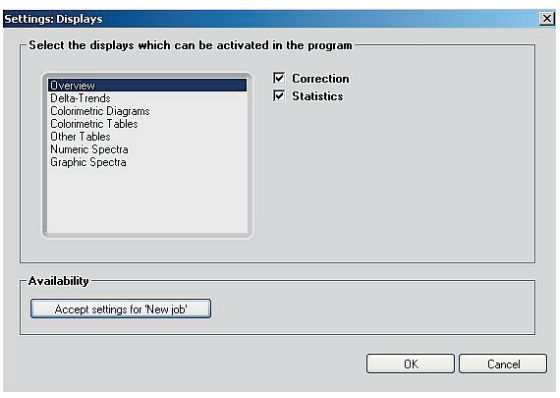
15.4 Settings displays

IIn the **Settings Displays** menu, you can select the display types which are activated in the job window and can therefore be displayed:

- overview
- delta-Trends
- colorimetric diagrams
- colorimetric tables
- other tables
- numeric spectra
- graphic spectra.

If you activate the **Accept settings for ‚New job'** control box under **Availability**, the selected display types will be accepted for all new jobs and can be activated in the job window. You can, of course, change your selection of display types for an existing job at any time

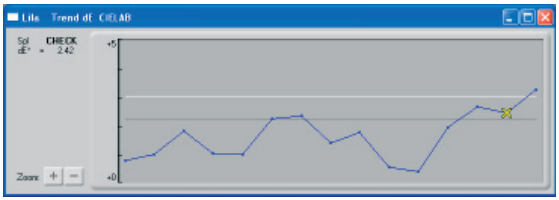
Procedure for selecting display types:



1. In the **Settings** menu, click on **Displays**. The **Settings: Displays** window appears.
2. In the list, click on the required entry and activate the relevant control box next to the selection list.
3. Repeat this procedure for additional display types.
4. If required, active the **Accept settings for ‚New job'** control box.
5. Click on **OK** after you have made all your settings.

15.5 Settings check area

A hard blend between the pass region and the fail region is often undesirable. By entering a factor between 0.50 and 1.00 you will be permanently positioned in a check area between the pass and fail regions. In this case, any samples with deviations from the reference of between 1.00 x tolerance and factor x tolerance are not classed as 'Fail' but are designated 'Check'.
A factor <1.00 produces a check area within the tolerance field. Example: tolerance 3.00, factor 0.75



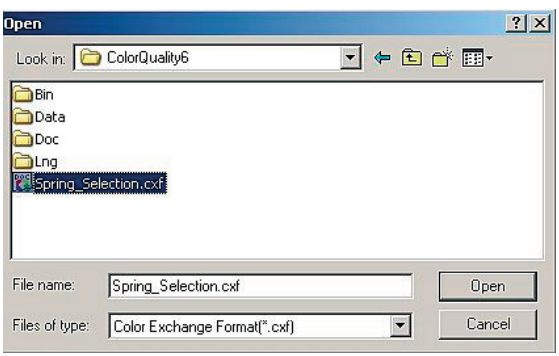
If you activate the **Accept settings for ‚New job'** control box, your selected factor will be accepted for all new jobs.
Procedure:

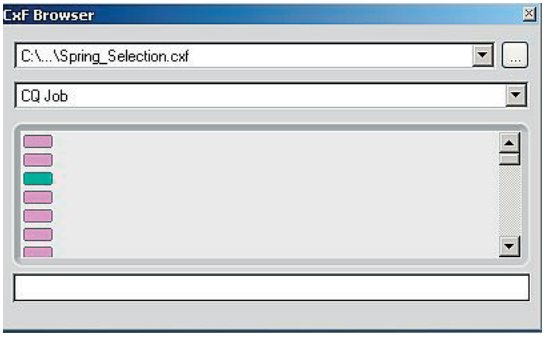
1. In the **Settings** menu, click on **Check Area**. The **Settings - Check Area** window appears.
2. Enter your required value into the **Factor** field.
3. If required, activate the **Accept settings for ‚New job'** control box.
4. Click on **OK**.

15.6 CxF Browser

Selecting this option opens the CxF browser window. With the help of this browser, you can access CxF files, whether local or stored on the network. These files are opened in the browser window and the colors contained within them can be taken into ColorQuality.
Procedure:

1. In the **Settings** menu click on CxF Browser. The **CxF Browser** window appears.
2. Click on the [...] button and navigate in Explorer to the location containing the CxF file to be connected.





3. Highlight the file and click on **Open**. The colors contained within in the CxF file are displayed.
4. Use the mouse to drag the colors out of the window and directly into the required location. Provided that the **Job: New** or **Modify current job** has previously been opened , the colors from the CxF browser can be defined e.g. directly as references.

Be especially careful that the colors you import have the same filter conditions as the job into which they are to be imported!
Colors with differing filter conditions can still be imported once a warning has been issued, but the spectrum data of the colors is transferred unchanged to the new filter conditions, which can result in color distortion.

15.7 Windows

The **Windows** menu is used to define how the windows are arranged.

Please do not confuse the options available on the **Windows** menu with those on the **Settings > Displays** menu.
While the **Settings > Displays** menu defines **which** display types should be shown, the Windows menu defines **how** those display types should be shown.

15.7.1 Arranging windows

The following preset window arrangements can be selected on the **Windows** menu:

- Overlapping
- Side by side
- Horizontal split
- Vertical split

Procedure for arranging windows:

1. Click on the required option on the **Windows** menu. The windows will be displayed in the way you have selected.

15.7.2 Creating a user-specific window arrangement and saving it as a preset setting

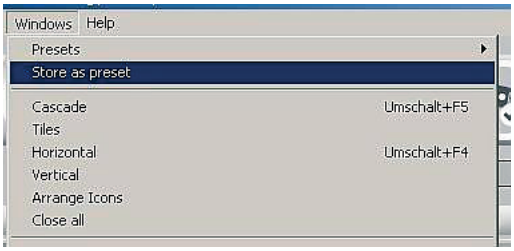
The **Windows** menu can also be used to save user-defined window arrangements to which you have given a name.
Such a setting can be applied to an open job by simply selecting the name from a list.
A user-defined window arrangement can also be saved as a general standard specification which can then be applied, for example, to new jobs.

Procedure for saving user-defined window arrangements:

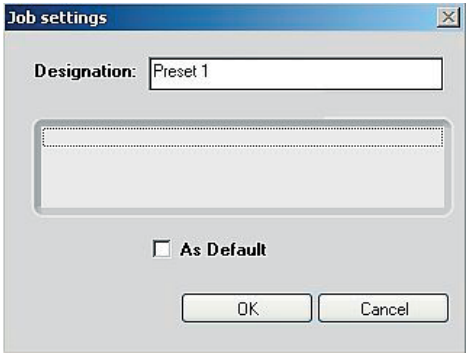
1. Arrange as you wish the windows that are displayed for the open job.

The windows can be moved about manually as required by using the mouse, and if necessary changed in size to suit your needs.

2. On the **Windows** menu, select the item **Save as preset**.



3. In the window which appears, enter in the **Designation** field a meaningful description of the setting you are saving, and confirm with **OK**.
   The setting is saved and the window is closed.

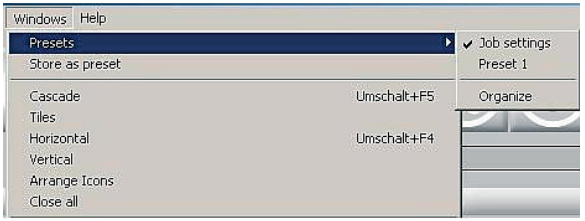


In this window it is possible to define the setting you are creating as a standard preset setting. To do this, check the **As Default** box. This standard view can then be applied, for example, to new jobs.

15.7.3 Applying user-specific preset settings

Procedure for applying a user-specific preset setting:

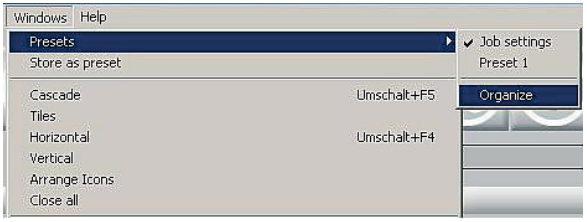
1. Open a job.
2. On the **Windows** menu, select the item **Presets**.
3. Select the required preset setting from the list of saved settings, to apply it to the open job.



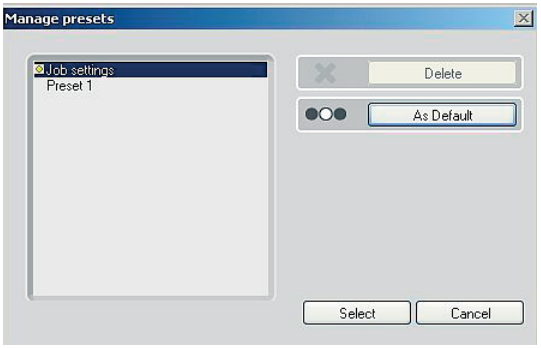
15.7.4 Organizing preset settings

If there is more than one saved preset setting, then the menu item **Organize** can be used to define any one of these settings as Standard:

1. On the **Windows > Presets** menu, select the item **Organize**.



2. In the window which appears, highlight the preset setting which you now wish to define as standard and click on the **As Default** button.
   The yellow marker is positioned in front of the newly selected standard setting.



If the preset setting **Job** setting is defined as standard, then when a job is opened, the windows are displayed exactly as they were arranged when the job was last closed.

Existing preset settings can also be deleted in this window:

1. Highlight the setting that is to be deleted and check the **Delete** button.
2. Click on **OK** to close the window.

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16 Quitting ColorQuality

16.1 General

ColorQuality continuously stores all objects – whether jobs, customers, standards or samples – in the database automatically. Thus, you can always quit the program without having to save any information beforehand.

Procedure:

1. In the **File** menu, click on **Quit**.

Even though, as described above, the data is continuously being saved in the background, you should never shut down your computer before the program has been closed correctly.

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17 Application notes

17.1 Recommended device settings

You must set the white basis (Auto/Pap/Abs) to **Abs** (absolute white reference) when measuring target colors.

With the filter wheel setting **Pol**, you get a better agreement of the measured valued of wet and dry surfaces on coated paper or on non-absorbent substrates.

Don't forget to carry out the white calibration before you initiate the measurements.

With the X-Rite SpectroEye, this process is automatic.

17.2 Measuring patterns

When measuring patterns with rough or structured upper surfaces (such as uncovered paper, textiles etc.) you absolutely must perform multiple measurements. By observing the average value continuously displayed on the screen, you can determine when sufficient measurements have been made. As a rule of thumb, consider that you can quit the average value calculations as soon as the displayed L*a*b* average value deviates by less than dE* = 0.2.

The pattern measurement should take place on the same homogeneous substrate (e.g. neutral white ceramic tile or neutral white cardboard with no optical brighteners) as the one used for the comparison between the pattern and the reproduced colors.

If the pattern is thick, all four feet of the measuring device must be positioned on the flat pattern. If this is not possible, shim the feet accordingly.

17.3 Color distance formulas

At this point, there should be a short overview of the various dE formulas based on the CIELAB color space available in the program, although without really being able to go into details. The main purpose here is to give you some pointers to the question of what is the best color distance formula to use.

The first and oldest dE formula is the CIELAB dE* formula, which is published in 1976 by the CIE (Commission Internationale de l'Éclairage).

Already early on, users of this formula noticed that the height of the dE* that was given out did not always agree with the visual perception of viewers.

With highly saturated colors (e.g. saturated yellow) it takes a relatively large amount of color variation before the human eye can perceive it. However, highly saturated colors such as this are assessed harshly by the CIELAB dE* formula (high dE*).

Conversely, the CIELAB dE* formula assesses lightly saturated colors (e.g. mid-gray), a field in which the human eye is very sensitive and can perceive the smallest color variations, relatively tolerantly (deep dE*).
In order to agree well with visual perception, however, strongly saturated colors must be assessed relatively tolerantly, and weakly saturated colors harshly.
This was the principle reason why new dE formulas were added later. The following formulas appear in chronological order:
dE CMC l:c(Color Measuring Committee of the Society of Dyers and Colorists, published 1984)
dE*94 (CIE, published 1994)
dE 2000 (CIE, published 2000)
The aim of all these formulas is to correct the discrepancy shown in the CIELAB dE* formula between the height of the dE being assessed and the visual perception of it.
This does not mean though that the CIELAB dE* formula should not be altered. However, when using this formula, you should be aware of the features described above. More correctly, when the CIELAB dE* formula is used, highly saturated colors should be allowed a higher dE tolerance than lightly saturated colors.
This makes it clear that when the CIELAB dE* formula is used, the target of one single dE* tolerance, valid for all colors, would not be realistic and would therefore - with highly saturated colors – possibly not be retained in practice.
If the target of a general tolerance limit for all colors were intended, or if you wanted for example with a customer to agree on one single fixed dE tolerance, then you would absolutely have to use one of the "corrected" dE formulas (dE CMC l:c, dE*94, dE 2000).

18 Hotkeys

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18 Hotkeys

18.1 General

Using hotkeys, you can very quickly carry out various commands or change to another window. These functions are mainly accessible in the job window and the main window, but also to a certain extent in other windows.

Purpose	Press
Copy all	Ctrl+C
Change to Select a **customer for the new job** window	Ctrl+N
Change to the **Open job** window	Ctrl+O
Print the active window	Ctrl+P
Arrange the windows horizontally	Shift+F4
Cascade the windows	Shift+F5
Help	F1
Measure	F2
Change to the **ColorNet** windowt	F3
Change to the **Modify current job** window	F4
Change to the **Database. Jobs** window	F5
Change to the **Database: standards** window	F6
Change to the **Database: Customers** window	F7
Change to the **General Settings** window	F9
Change to the **Settings: Program** window	F10
Change to the **SpectroServer Settings** window	F11
Display info picture (version, serial number, licenses)	F12

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19 Installing ColorQuality

19.1 Hardware & software requirements

Minimum system requirements

- 800 MHz Pentium III PC or higher
- XP SP2, Windows Vista, Windows 7
- 256 MB RAM
- 120 MB of available hard-disk space
- Screen resolution of 1024 x 768
- USB-Port for hardware key and additional USB- or Serial-Port for the measurement instrument
- Administrator rights for installation

Recommended system requirements

- Core 2 Duo, 2GHZ
- XP SP2, Windows Vista, Windows 7
- 2 GB RAM
- 100 GB of available hard-disk space
- Screen resolution of 1280 x 1024
- USB-Port for hardware key and additional USB- or Serial-Port for the measurement instrument
- Administrator rights for installation

Minimum system requirements for Online Version

- 3,2 GHz Pentium IV PC or higher
- For configurations up to 20 users: 4 GB RAM, Windows® Server 2003
- For configurations over 20 users: 200 MB RAM per user, Windows® Server 2003 R2 64bit Enterprise or DataCenter Edition
- Terminal Services and Application Server
- 100 GB of available hard-disk space
- Screen resolution of 1024 x 768
- USB-Port for hardware key
- Administrator rights for installation

19.2 Installation on a personal computer

19.2.1 Preparing for the installation

If you already have a version of this software installed and are performing an update, before updating you should completely back up the program index and back up the database (see section 13.6 “Backing up your database“).

19.2.2 Installation of ColorQuality

Procedure:

1. Start WINDOWS.
2. Insert the CD into the CD-ROM drive and wait until the **X-Rite Setup** window appears.
3. Click on the symbol for **ColorQuality**.
   The Setup program then takes you step by step through the installation. Carefully read the information displayed before you proceed with the installation.

19.2.3 Connecting your PC to the measuring device

In order to be able to perform measurements or import data from the measuring device, the measuring device must be connected to a user-defined serial port (COM1:, COM2:, ..., COMn:) or to a USB port using a USB serial converter. When you work with ColorQuality, you can disconnect the measuring device in order to make off-line measurements at any time and then reconnect it to your computer. ColorQuality automatically recognizes the interface you selected.

19.2.4 Installation of the copy protection plug

Connect the dongle to a USB port on your personal computer.

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