



smart-lab for color2view

Step-by-Step Guide

A member of **C** ALTANA

Specific properties and structural characteristics of the software are intellectual property of BYK-Gardner. The copyright of this manual remains with BYK-Gardner.

This document must not be reproduced fully or in party, published or used for any other competitive purposes, no matter whether against payment or not, without prior written authorization from BYK-Gardner.

BYK-Gardner reserves the right to update the instrument, software and written documentation without prior notice.

© Copyright 2024 BYK-Gardner GmbH All rights reserved

Table of Contents

1	System Description	5
	1.1 Software Overview	6
	1.2 Data Management	7
2	Software Installation	8
	2.1 Requirements	9
	2.2 Installation	9
	2.3 License	. 10
3	Standard Management	11
	3.1 Define Color Families	. 12
	3.2 Add Color Standards	. 14
	3.3 Set Tolerance Values	. 16
	3.4 Export/Import Digital Standards	. 17
4	Online Measurements	19
	4.1 Create new Project	. 20
	4.2 Load Standard from Database	. 21
	4.3 Measure in Online Mode	. 22
5	Standard Data Analysis	24
	5.1 Screen Layout	. 25
	5.2 Data Table	. 27
	5.3 Line Graph	. 28
	5.4 Spectrum	. 29
	5.5 Scatter	. 30
	5.6 Grouping	. 30
6	Special Indices Analysis	31
	6.1 Metamerism	. 32
	6.2 Opacity	. 33
	6.3 Jetness	. 34
	6.4 Tinting Strength	. 36

	6.5	Fluorescence	37
7	Pro	ject Management	39
	7.1	Expand & Change a Project	40
	7.2	Compare Projects	43
	7.3	Share Project Files	45
	7.4	Export to Excel	45
	7.5	Print Report	47
	7.6	Save to Database	49
8	Co	nfiguration	51
8	Coi 8.1	figuration5 General Options	51 52
8	Coi 8.1 8.2	figuration5 General Options Standard Database	51 52 52
8	Coi 8.1 8.2 8.3	nfiguration5 General Options	51 52 52 53
8	Coi 8.1 8.2 8.3 8.4	nfiguration	51 52 52 53 54
8	Con 8.1 8.2 8.3 8.4 8.5	figuration	51 52 52 53 54 55
8	Cor 8.1 8.2 8.3 8.4 8.5 8.6	figuration 5 General Options 6 Standard Database 6 Measurement Database 6 Delete Measurements 6 Share Database 6 User Groups 6	51 52 52 53 54 55 56

System Description

1.1 Software Overview

The software smart-lab offers intuitive online measurement with instant data display combined with open and flexible data analysis for quality control in the laboratory.



Software Modules

1	Standard Management	Definition of color standards with pass / fail limits: Measurement of master panels or import of digital standards.
2	smart-lab Measurement Module	Online measurements / data transfer for offline measurements and analysis of the measurement data.
3	Instrument Management	Preparation of the instrument by sending the selected color standards to the instrument.
4	Configuration	General settings such as UI language, database selection and automatic data backup.

General Information

5	Software Version	Will be up to date after download and installation. Please check in regular intervals if an update is available on our website. Usually updates take place twice a year.
6	About / License	With installation a 30 days trial period starts. Afterwards the software is to be licensed. It also allows to return licenses in order to change over to a new PC.
7	User Group	If user groups have been defined, a log-in with specific user rights (module access) is possible, see "Configuration" > "User groups".

1.2 Data Management

In smart-lab measurement data are managed based on so-called "projects". Projects contain measurement data of the master standard as well as test series and samples:

- Standards are ideally defined with their limits before they are used in a project or sent to the instrument. Details see section "Standard Management" (Link^[]¹²).
- Measurement data can be created directly within a project if the instrument is connected to the software. Details see section "Online Measurement" (Link^{D20}).



2 Software Installation

2.1 Requirements

The target machine has to fulfill following requirements:

- Operating system: Windows® 10 1607 or later
- Hardware: i5 2.5 GHz; i9 recommended, or equivalent (x86 & x64 architecture only)
- Memory: 8 GB RAM, 32 GB recommended
- Free hard-disk capacity: 4 GB during installation
- Monitor resolution: 1920 x 1080 pixel; 4K recommended
- Interface: free USB-port

Latest details see "smart-chart installation guide" in the download archive.

2.2 Installation

Download and installation

1. Download the ZIP file per instrument:

- https://www.byk-instruments.com/en/software
- 2. Extract the complete archive on your hard drive into a new folder.

3. In the extracted folder, right mouse click on the file "install.exe" and select the option "Run as administrator".

4. Follow the setup instructions on the screen.



NOTICE

During installation full administrator rights are necessary.

2.3 License

After download and installation, the software can be used for **30 days** free trial. Thereafter, you need to decide and register for the required software package. The standard delivery includes two licenses for the selected software package:

- smart-lab Color or
- smart-process Color

License activation

- Before activating the license, make sure to have a reliable internet connection.
- Start smart-chart and click on "About / License" in the upper left corner of the screen.
- The license window opens and shows the license agreement.
- Connect the instrument with the computer and click on the "License" tab.
- Select the desired software by clicking on the appropriate "Validate License" button.
- In case a license is available, the button "Import Online License" appears. Click on this button, fill in the registration form and click on "Register".
- The activation of the license is shown in the upper "License Information" field.

License transfer

If smart-chart is to be transferred to another computer, the license needs to be returned from the actual computer and activated on the new computer.

- Before returning the license, make sure to have a reliable internet connection.
- Start smart-chart and click on "About / License" in the upper left corner of the screen.
- The license window opens and shows the license agreement.
- Find the respective software license in the upper "License Information" field and click on the "Return License" button.
- A confirmation is shown that the license was successfully returned.



NOTICE

In case your computer has no internet connection, refer to file "Activate and return smart-chart license" in folder "C:\Program Files(x86)\BYKWARE\smart-chart3\Documentation".

3 Standard Management



Measurement settings for color standards, including pass/fail tolerances, are defined in the module "Standard Management". Color standards can also be measured online here.

3.1 Define Color Families

A color family determines the common measurement settings. These settings are **automatically inherited** by all standards within the family.

1. Select the instrument to be used: "spectro2guide/color2view". Afterwards select "Add Family" and input a name.

Standard Managemer	nt	? 🗙
Add Family Add Standard	Save Rename Delete	Export Import
Standards	Service BYK smart-chart	×
Search D Image: Search D	Please enter a new name: BYK OK	Cancel

2. Select the tab "Color" to define following settings.

Color Color Indice	s Gloss Values
Solid 01 - Settings 5 Statistics Statistic Options Average	Solid 01 - Measurement Geometry Geometry 45°c0° d8°
Off Off In std n Sample S B 3 B	Solid 01 - Difference Method dE* 94 Difference Method Settings
Fixed statistic Measurement Screen Delta General Observer	kL 1 kb 1 kC 1 kH 1 1 B B B Color System Pass/Fail Image: Color System Pass/Fail Image: Color System Pass/Fail Image: Color System Image: Color System
Illuminant 1 D65/10 Pass/Fail Illuminant 2	Solid 01 - Tolerances Calc Method Calculated Tolerances
Pass/Fail Illuminant 3 Pass/Fail	Solid 01 - Fluorescence Limit Fluorescence % Limit 33 P Pass/Fail AEzero
	% Limit 200 🔋 🔲 Pass/Fail

1	Measurement Geometry	45°c:0°
2	Difference Method	Color equation (e.g. dE*, dE*94)
		Tolerance settings
3	Tolerances	Calculated or manual; symmetric or asymmetric
4	Fluorescence Limit	Settings for dE _{FI} and dE _{zero}
5	General Settings	Statistic Options, Measurement Screen, Observer, Illuminants

3. Select the tab "Gloss" and add 20° and/or 60° gloss as a measurement parameter by clicking the icon "Plus (+)".



- To set Pass/Fail limits, move the mouse to the gray area of the graph. By clicking on the small plus in the red box, input fields appear in which the limit for pass/warning and fail can be entered.
- To define the "Display" settings choose from drop-down list: Absolute, Delta, Absolute + Delta.
- 4. Select the tab "Color Indices" and choose scales to be measured from the list, if required.



Click the icon "Plus (+)" to add the required scales.

3.2 Add Color Standards

After creating the color family the various color standards within the family can be defined:

```
1. Select "Add Standard" and input a name.
```

 Standard Managem 	nent	? X
Add Family Add Standard		
Standards	BYK-mac cloud-runner wave-scan wave-scan T micro-gloss haze-gard spectro2guide/color2view spectro2profiler Protection Info	
Search P	Color Indices Gloss Values	
Gradie BYK	BYK - Settings BYK - Measurement Geometry	
Solicion BYK smart-chart Please enter a new name: BYK Blue	S S S S Fixed statistic Difference Method Detta Color System Detta Color System Detta Color System Detta Color System Difference Method Settings Color System VXZ xyY Cheereal Color System Difference Method Settings Color System Difference Method Settings Color System Color System PassyFrail Color System Color System Color System Color Sy	

2. To add the spectral data for the new color standard: Connect instrument with computer.

3. Select tab "Values" and click on "Add Spectral Data".

 Standard Managem 	ent	? X
Add Family Add Standard		
Standards	BYX-mac cloud-runner wave-scan wave-scan T micro-gloss haze-gard spectro2guide/color2view spectro2profiler Protection Info	
Search P	Color Color Indices Gloss Values	
BYK BYK Blue	Add Spectral Data	
양 Metallic 01 ▷ 양 Solid 01		

4. Select "Measure".



5. Place the color standard on instrument and start taking measurements by pressing either the "Operate" button on the instrument or the "Measure" button in the software. An average of 5 individual measurements on different spots is recommended.

BYK smart-chart		-	×
	Measure standard BYK Blue (0/5)		?
	-La color2view Pro X 45°c0° C Measure Apply		
			^

6. The data in the table are the colorimetric data of the last measurement.

🔘 ВҮК	(smart-	chart												-	
Measure standard BYK Blue (5/5)															
											_				
				(-d	- color2v	iew Pro X 45	5°c:0°	Mea	asure		Appl	y			
				-	- color2v	iew Pro X 45	5°c:0°	Mea	asure		Appl	у			
		D65/1	0 45°c:(- color2v	iew Pro X 45 Gloss 60	5°c:0° 🔹	Mea	asure		Appl	y			
L*	a*	D65/1 b*	0 45°c:(C*		- color2v dE94 Fl	Gloss 60 Gloss 60	Gloss 20 Gloss 20	Mea	asure		Appl	у			

7. In the graph below the table, all individual measurements are shown in comparison to the mean value.



8. Outliers can be eliminated by highlighting the measurement in the graph with the mouse and using "Delete" on the keyboard.

9. With "Apply" the measurements are accepted and the software returns to the main window of "Standard Management".

 Standard Managem 	ient												? 🗙
Add Family Add Standard	Save	Rename.											
Standards Search P • & Various Standards • & BYK • & BYK • & BYK • & Metallic • & Solid • & Test	EYK-mac Color Add Spec & EYK B spectro	cloud-runner Col tral Data Lue LAB Shift Angle 45°c:0° D65/10 20° 60°	wave-so or Indices	an way trial No. 200 a* b* 22,12 -34,5	ve-scan T Gloss 05197 55 41,02	Catalog h* 302,63	-gloss	haze-gard /alues Trafo Model Model Gloss 30,99 30,99	spectro2guide/c	tolor2view	spectro2profiler 12.4.2023 3:57 +01	Protection :00	Info
			700									_	BYK Blue

10. To delete spectral data again, the icon "Trashcan" can be used.

11. Click the button "Define Master" to use this standard as a digital master standard. This allows the standard to be distributed to other facilities and suppliers and loading it to their respective instrument.

12. Click the button "Save" to save the standard in the standard DB.



NOTICE

It is advised to save any change in the spectral data as a new digital standard.

3.3 Set Tolerance Values

The common settings are automatically inherited by the color family can be changed individually for each color standard:

1. Go back to the tab "Color".

BYK Blue - Tolerances						
Individual tolerances are applied	d					
Calc Method Manual Input	-					
45°c:0°	dL* 1	da* 2,09 🛢	db* 2,09 🛢	dC* 2,63	dH* 1,54	

2. Click on the icon"Edit" to unlock the color standard from the family and enter individual tolerances. The input options depend on the selected color equation.

3.4 Export/Import Digital Standards

Digital standards are saved as XML files and can be distributed by email or network drive.

Export Digital Standard

Complete color families or individual standards can be exported as digital standards.

 Standard Managem 	ent										? >
Add Family Add Standard		Rename			elete		Ехро	rt	Impo		
Standards	BYK-mac cl	oud-runner	wave-	scan	wave-s	ican T	micro-	gloss	haze-gard		
Gr Various Standards Gr BYK	spectro2guide/co	olor2view Colo	spectro or Indice	2profiler :s	Pro	tection Gloss	Info	Va	alues		
ල් BYK Blue ල් Metallic ▷ ල් Solid	Add Spectral Da	ata									
D 🥵 Test		 Master 	:	Serial No	o. 200519	97	Catalog	No. 7605	Мо	de NRC	•
		LAB Shift									
		Angle	L*	a*	b*	C*	h*	dE94 FI	Gloss		
	45°	c:0° D65/10	10,03	22,12	-34,55	41,02	302,63	0,00			
		20°							30,99		
		60°							30,99		
										_	- BYK Blue

To export digital standards:

1. Select the appropriate color family or standard.

2. Click on the button "Export", the file selection dialog opens.

Save As					×
$\leftrightarrow \rightarrow \uparrow \uparrow$	« Jochen » Manuals	> 5-Softwares > Smart-Chart > Project	's v	ට 🔎 Search	Projects
Organize 🔻 Ne	w folder				::: • ?
Smart-0	Chart ^	Name	Date modified	Туре	Size
Apple		🔐 BYK-Blue.xml	25.05.2023 13:39	XML File	96 KB
Backup		📓 Standard-BYK-Blue.xml	25.05.2023 13:39	XML File	96 KB
📙 Datab	ase				
📙 Drafts	· ·				
File name:	BVK-Blue xml				
Course trans	Encoded down				
Save as <u>t</u> ype:	Exported standard docun	nent (.xmi) (".xmi)			~
∧ Hide Folders				<u>S</u> ave	Cancel

3. Select target directory, enter the file name and click on "Save".

Import Digital Standard

 Standard Manageme 	ent	? 🗙
Add Family Add Standard	Save Rename Delete Export Import	
Standards	BYK-mac cloud-runner wave-scan wave-scan T micro-gloss haze-gard	
Search D	spectro2guide/color2view spectro2profiler Protection Info	
Various Standards Gr BYK Ct BYK Bue	Color Color Indices Gloss Values	
ⓒ Metallic ▷ ⓒ Solid	Add Spectral Data	
D 📴 Test	Mostor Said No. 2005107 Catalas No. 2605 Mindo NDC	-
	LAB Shift	
	Angle L* a* b* C* h* dE94 Fl Gloss	
	45°c:0° D65/10 10,03 22,12 -34,55 41,02 302,63 0,00	
	20° 30,99	
	60° 30,99	

To import digital standards:

1. Click on the button "Import"; the file selection dialog opens.

Open					×
\leftarrow \rightarrow \checkmark \uparrow \blacksquare « Jochen	> Manua	ils > 5-Softwares > Smart-Chart > Pro	ojects	✓ ⁷ / ₂ < Se	earch Projects
Organize 🔻 New folder					::: • 🔟 ?
Smart-Chart	^	Name	Date modified	Туре	Size
Apple		📓 BYK-Blue.xml	25.05.2023 13:39	XML File	96 KB
Backup		📔 Standard-BYK-Blue.xml	25.05.2023 13:39	XML File	96 KB
📙 Database					
Drafts	- 51				
Inputs					
Printout	~				
File <u>n</u> ame:	BYK-Blue	.xml		~ Exporte	ed standard (.xml) (*.xml $ \smallsetminus $
				<u>O</u> pe	en 🔽 Cancel

2. Select the required file on your computer and click on "Open".

3. A dialog opens to set specific import options for families and standards:

- Double arrow: Will be updated in database.
- Plus symbol (+): Will be created in database.
- Minus symbol (-): Will be excluded from import.

BYK smart-chart						-		×
Name	🛢 Datab	ase			Standard Import			
	Date	Time	_		Name	Date	Time	
С ВҮК			<	2 + -	ВҮК	12/4/2023	3:56 PM	
& BYK Blue			<	2 + -	BYK Blue	12/4/2023	4:13 PM	
			_					
						ОК	Cancel	

5. Click on the symbol "Plus (+)" and on "OK" to start the import.

6. The imported standard is automatically assigned to the correct family. If this family does not exist yet, it will be created automatically.

4 Online Measurements



Connect instrument to PC and measure standards / samples online. Measured data is instantly displayed in the project for direct data analysis.

4.1 Create new Project

Measurement data are managed in so-called "project files". In the list box, the recently used projects are displayed.

Project	
New Project	Browse Project
Recent Projects	Open Remove Remove All

- "New Project": To create a project from scratch
- "Browse Project": Search for project file on PC and open it.
- "Open Project": To open an existing project.
- "Remove": Remove selected project from list of recent projects.
- "Remove all": Remove complete list of recent projects.
- 1. Click on "New Project" to create a project from scratch.



2. For a difference measurement (comparison sample to standard) click on "Add standard".

4.2 Load Standard from Database

1. Click on "Load from Database".

Save 💌 Browse Project Add Standard		
New Project	Add Standard	×
	Measure Load from Database Download from Instrument	

2. To select a standard from database perform following steps.

		Select	Standard		×
		 Back 	Apply		
Database Standard Management				Search	٩
From: Select a date 15 To: Select a date 15	BYK Blu BYK Cya BYK Gra RVK Ma	e an Test au nta Riach			
BYK Blue Color	Color Indices	Gloss	Values	Info	
BYK - Settings Statistics	BYK Geor	Blue - Measurem	ent Geometry		•

- "Database": Keep default entry "Standard Management" or select the required one from the list.
- List of standards: Click the required standard from the list in the middle. The selected standard appears in the selection box below. Highlight this standard and confirm with "Apply".



NOTICE

To simplify the selection of the standard use the "search" or "filter" or "time interval" function - marked gray in the example above.

4. Once a selection has been made, the button "Apply" becomes active. Click the button to add the standard to the project.

Instrument-SN.: 2005197 Catalog-No.: 7605	J-No.: 7605	Catalog-		005197	Instrument-SN.: 2
Angle L* a* b* C* h* dE94 FI Gloss	C* h*	b*	a*	L*	Angle
45°c:0° D65/10 10,03 22,12 -34,55 41,02 302,63 0,00	41,02 302,63	-34,55 4	22,12	10,03	45°c:0° D65/10
20° 30,99					20°
60° 30,99					60°
Add Tert Saries					

4.3 Measure in Online Mode

Next step is adding test series to the project. A test series includes a number of sample measurements.

1. Click on "Add Test Series".

Add Test Series	×
Measure Test Series	
Load from Database	
Download from Instrument	
Please enter a new name: TESTSERIES-1	
OK Cancel	

2. Click on "Measure Test Series" and enter a name. The dialog "New Measurement" opens. Samples can be renamed by clicking on the proposed name.

New Measurement SAMPLE 001 0 / 3)	×
color2view Pro X 45°c:0° Measure Measure Measure Next Sample End Test Series	
Color Components FI Components zero Components Statistic V Tolerances Δ Color Absolute Color Absolute & Δ Color	ø
Table Line Scatter x/y Metamerism Spectrum Fluorescence 🔲 🗄 Print Export	

3. Place the 1st sample on the instrument connected to your PC on and click on button "Measure".

4. Perform the required number of measurements on different spots on the sample.

5. The measurement results are shown in the table as "Current Measure".

			Nev	w Mea	asurei	ment	SAM	PLE 0	01 (3	/3)				×
						۲								
	-	 color2vi 	ew Pro X 45°	c:0°	-	Meas	ure	Meas	ure Next	Sample	End Test S	eries		
Color Corr	Color Components FI Components zero Components Statistic Tolerances <u>A Color</u> Absolute Color Absolute 8 Groups													
Table	Line Scatt	ter x/y	Metamerism	Spect	rum f	Fluoresce	ence			Print	Export			
	BYK Blue D65/10 45°c:0° Club 20 Club 20													
			Aperture	dE94	L*	a*	b*	C*	H*	dE94 FI	Gloss 20	Gloss 60		
	Absolut	e Values	32mm		10,03	22,12	- 34, 55	41,02	302,63	0,00	31,0	31,0		
Checkzone +	Date	Status				D65/10	45°c:0°				Gloss 20	Gloss 60		
Checklone	Dute	Status	Aperture	dE94	dL*	da*	db*	dC*	dH*	dE94 FI	0.03520	0.055.00		
Current Measu	іге													
1_3	05.12.23 17:31:35	•	32mm	0,57	0,40	-0,80	0,64	-0,98	-0,31	0,00	31,0	31,0		
2_3	05.12.23 17:31:38	•	32mm	0,35	0,19	0,27	0,42	-0,21	0,45	0,00	31,1	31,1		
3_3	05.12.23 17:31:39	•	32mm	0,55	0,36	-0,79	0,76	-1,07	-0,23	0,00	31,4	31,4		
SAMPLE 001	05.12.23 16:31:40	•	32mm	0,42	0,32	-0,44	0,61	-0,75	-0,05	0,00	31,2	31,2		~

6. Click on button "Measure Next Sample" and proceed with measurements on the 2nd sample.

			Nev	w Me	asure	ment	SAM	PLE O	02 (3	/3)				×
	_					۲					7	_		
		 color2vi 	ew Pro X 45°	c:0°		Meas	ure	Meas	sure Next	Sample	End Test S	eries		
Color Con	nponents 📃 FI (Componei	nts 📃 ze	ro Comj	ponents	s 📃	tatistic	Tole	erances		Absolut	e Color Ab	solute & ∆ Color	Ø
Groups												_		
Table	Line Scat	ter x/y	Metamerism	Spect	trum	Fluoresco	ence			Print	Export			
	BYK Blue					D65/10	45°c:0°				Gloss 20	GLOSS 60		^
			Aperture	dE94	L*	a*	b*	C*	H*	dE94 FI	01033 20	01033 00		
	Absolut	e Values	32mm		10,03	22,12	-34,55	41,02	302,63	0,00	31,0	31,0		
Charkmann I	Data	Ctature				D65/10	45°c:0°				Close 20	Close 60		
Checkzone ~	Date	Status	Aperture	dE94	dL*	da*	db*	dC*	dH*	dE94 FI	GIUSS 20	GIOSS 00		
Current Measu	ıre													
1_3	05.12.23 17:36:58	•	32mm	0,36	0,00	-0,73	0,33	-0,67	-0,44	0,00	30,8	30,8		
2_3	05.12.23 17:36:59	•	32mm	0,49	0,21	-0,86	0,77	-1,12	-0,29	0,00	31,1	31,1		
3_3	05.12.23 17:37:00	•	32mm	0,37	0,03	-0,70	0,17	-0,52	-0,50	0,00	30,6	30,6		
SAMPLE 002	05.12.23 16:37:00	•	32mm	0,39	0,08	-0,77	0,43	-0,77	-0,42	0,00	30,8	30,8		
Match to Stan	dard													
C + + + D + C + D + 4	05 10 02 16:21:40		22000	0.42	0.22	0.44	0.01	0.75			24.0			

7. The project can be expanded with more samples at any time, see "Expand & Change a Project" (Link D^{40}).

8. Click on "End Test Series" to finish your measurements.

9. Click on "Save" and save the results into new project file.

The new project has been created. You can now start with the "Data Analysis" (Link^{D_{25}}).

5 Standard Data Analysis

5.1 Screen Layout

Projects are displayed in smart-lab in a window with three panes.

 spectro2guide color2view - Pr Save Browse 	oject-BY	K-Blue	9 andard		Add Tes	t Series				t (Opacity Measu	rement	? Properties	×
 ▲ Project-BYK-Blue ▲ G BYK Blue ▲ Batch_2023_05_25 ▶ Batch_2023_05_26 ▶ Batch_2023_05_26 ▶ Batch_2023_05_30 	Color Con <u> </u>	iponents bsolute Co Line	FI Com lor Absolut	iponents e & ∆ Co v/y Me	olor	zero Com Ø 🚺	ponents Groups trum I	Fluoresco	tatistic	Tolera	Print	Export)	
▶ Batch_2023_06_01	ВУК ВІ	Je	Aperture	dE94	L*	D65/10 a*	45°c:0° b*	C*	H*	dE94 FI	Gloss 60			^
	Absolu	te Values	12mm		53,42	-16,87	-32,17	36,32	242,33	0,00	73,8			
	Checkzone *	Status	Aperture	dE94	dL*	D65/10 da*	45°c:0° db*	dC*	dH*	dE94 FI	Gloss 60			
	Match to Stan	dard	÷											
	SAMPLE 001	•	12mm	0,52	0,45	0,48	0,43	-0,60	0,23	0,00	10,4			
	SAMPLE 002	•	12mm	0,92	0,81	0,24	1,05	-1,04	-0,28	0,00	10,1			
2	SAMPLE 003	•	12mm	0,62	0,56	0,45	0,48	-0,63	0,18	0,00	10,6			
9	SAMPLE 004	•	12mm	0,40	0,25	0,56	0,42	-0,63	0,31	0,00	10,6			
4 checkzone(s) 0 highlighted	<													2

Ribbon (1)

The buttons in the ribbon allow the file handling, the addition of further measurement data to the project and the change of settings.

spectro2guide color2view - Project Save Browse Project	? X t-BYK-Blue Add Standard Add Test Series Add Measurement Opacity Measurement Properties
Save (project file)	Save all modifications to the current project (file). Save as new project (file). Save test series in measurement DB.
Browse Project (file)	Several projects can be opened and edited at the same time.
Add Measurement, Test Series or Standard	An existing project can be extended with additional data.
Properties	View / edit details for selected object, e.g. change name or edit settings.

For "Opacity Measurement" see "Special Indices Analysis" > "Opacity" ($\underline{Link}^{D_{33}}$).

Navigation Tree (2)

Measurement data are arranged in a tree structure starting with the name of the project, the selected standard, associated test series and the measured samples.

<pre>spectro color2v</pre>	2guide riew - Project-BYK-I	Blue											? 🗙
	Browse Project	Add Standard		Add Test S						Opacity N			
 Project-BYK-Blue BYK Blue 		Color Com	ponents	FI Com	ponents	2	tero Com	ponents	• s	tatistic	Tolera	nces	
▷ Batch_ 👘 ▷ Batch_ 👻 ▷ Batch_ 🝟	Copy Cut Paste	Ctrl+C Ctrl+X Ctrl+V	solute Co Line	lor Absolut	e & ∆ Co /y Me	olor [n Spec	Groups trum F	luoresce	ence		Print	Export
▶ Batch_	Collapse All	Del	2	Aperture	dE94	L*	D65/10 a*	45°c:0° b*	C*	H*	dE94 FI	Gloss 60	
	Select All Select All by	Ctrl+A	e Values Status	12mm	dE94	53,42 dL*	-16,87 D65/10 da*	-32,17 45°c:0° db*	36,32 dC*	242,33	0,00 dE94 FI	73,8 Gloss 60	
	Sort alphabetically		ard										
	Save Standard in Standard DB Save Test Series in Measurement DB	F9	-	12mm 12mm	0,59 0,52	0,52 0,45	0,43 0,48	0,59 0,43	-0,73 -0,60	0,11 0,23	0,00	10,4 10,4	
	Copy as new Standard Average as new Standard		•	12mm 12mm	0,92 0,62	0,81 0,56	0,24	1,05 0,48	-1,04 -0,63	-0,28 0,18	0,00	10,1 10,6	
	Average as new Sample Auto-standard as new standard		Ľ	12mm	0,40	0,25	0,56	0,42	-0,65	0,51	0,00	10,6	
	Unlock]										
4 checkzone(s) 0 hig	Browse Project Close Project												

Highlighting measurement data in the navigation tree and a right mouse click opens the context menu. Depending on which measurement data have been selected, functions in the context menu are grayed out.

Copy, Cut, Paste, Delete	Use these options to manage your measurement data - analog to the file operations in the Windows Explorer.
Save data in database(s)	Store standards and measurement data in database for backup and data sharing.

For the operations on samples and standards see "Expand & Change a Project" (Link¹⁴⁰).

Content Section (3)

The content section allows the display and analysis of the measurement data based on different predefined graphs.

Color Con	nponents 🔲 Fl (Compone	nts 📃 ze	ro Comp	onents	Statistic	Tolera	nces	
Δ Color A	Absolute Color Abs	olute & Δ	Color		Groups				
Table	Line Scat	ter x/y	Metamerism	Spect	rum Flue	orescence		Print	Export
	BYK Blue		D65/	'10 45°o	::0°	Gloss 60			^
			Aperture	dE94	dE94 FI	01033 00			
	Absolut	te Values	12mm		0,00	73,8			
Chackgong	Data	Ctatur	D65/	'10 45°o	: :0 °	Close 60			
Checkzone ~	Date	Status	Aperture	dE94	dE94 FI	GIUSS OU			
Match to Stan	idard								
SAMPLE 001	25.05.23 13:31:16	•	12mm	0,52	0,00	10,4			
SAMPLE 002	25.05.23 13:34:46	•	12mm	0,92	0,00	10,1			
SAMPLE 003	25.05.23 13:35:57	•	12mm	0,62	0,00	10,6			
SAMPLE 004	25.05.23 13:37:09	•	12mm	0,40	0,00	10,6			
									~

The details can be found in the following sections.

5.2 Data Table

The data table shows the numerical measurement values.

Color Con	nponents	FI Com	ponents		zero Com	ponents	s s	tatistic	Tolera	nces		
△ Color 🛛	lbsolute Co	olor Absolut	e & ∆ Co	plor	Ø	Groups						
Table	Line	Scatter	¢∕y Me	tamerisr	n Spec	trum f	luoresce	ence	JO 🔡	Print	Ехро	rt
ВҮК ВІ	ue				D65/10	45°c:0°						^
		Aperture	dE94	L*	a*	b*	C*	H*	dE94 FI	Gloss 60		
Absolu	ute Values	12mm		53,42	-16,87	-32,17	36,32	242,33	0,00	73,8		
Checkzone A	Status				D65/10	45°c:0°				Close 60		
Check20he -	Status	Aperture	dE94	dL*	da*	db*	dC*	dH*	dE94 FI	0055 00		
Match to Stan	dard											
SAMPLE 001	•	12mm	0,52	0,45	0,48	0,43	-0,60	0,23	0,00	10,4		
SAMPLE 002	•	12mm	0,92	0,81	0,24	1,05	-1,04	-0,28	0,00	10,1		
SAMPLE 003	•	12mm	0,62	0,56	0,45	0,48	-0,63	0,18	0,00	10,6		
SAMPLE 004	•	12mm	0,40	0,25	0,56	0,42	-0,63	0,31	0,00	10,6		
												~
<												>

In the upper part the absolute values of the standard are displayed - along with their tolerance values as defined. The display of the tolerance values can be toggled with the option:

V Tolerances

In the lower part the differences between samples and standard are displayed. Measurement results can be displayed:

Δ Color Absolute Color Absolute & Δ Color

A traffic light symbol is assigned to each measurement. Values out of tolerance are highlighted in yellow or red according to their pass / fail definition.

By clicking on the column header of the table:

- with left mouse the sorting can be changed (ascending or descending);
- with right mouse parameters shown in the table can be activated and deactivated.

Color Com	ponents	FI Com	ponents	Ze	ro Com	ponents	s 🔲	tatistic	Tolera	nces	
Δ Color A	bsolute Col	or Absolut	e & ∆ Col	lor Ø		Groups					
Table	Line	Scatter	k∕y Met	amerism	Spec	trum l	Fluoresco	ence		Print	Export
BYK BI	ie 🗖				55/10	45°c:0°					^
	~	Checkzo	one		a*	b*	C*	H*	dE94 FI	Gloss 60	
Absolu	te Value	Test Ser	ies Name		16,87	-32,17	36,32	242,33	0,00	73,8	
		Paramet	ter 1		5/10	45°c:0°					
Checkzone *	Statu	Standar	d		da*	db*	dC*	dH*	dE94 FI	Gloss 60	
Match to Stan	dard	Paramet	ter 3								
SAMPLE 001	•	Paramet	ter 4		0,48	0,43	-0,60	0,23	0,00	10,4	
SAMPLE 002	•	Date	ler 5		0,24	1,05	-1,04	-0,28	0,00	10,1	
SAMPLE 003		12mm	0,62	0,56	0,45	0,48	-0,63	0,18	0,00	10,6	
SAMPLE 004	•	12mm	0,40	0,25	0,56	0,42	-0,63	0,31	0,00	10,6	
											~
<											>

5.3 Line Graph

Clicking on the "Line" button displays line graphs including the tolerances as defined in "Standard Management".



BYK smart-chart

Scales

Gloss 60

L*

a*

b*

C*

h

OK

Cancel

The scales to be shown can be selected by clicking the button "Graph".

Scales can be moved to be displayed:

- Select the required scales by using the arrow buttons.
- The order of the scales can be changed by using left mouse click and drag & drop.
- Individual scales can be deselected with the waste bin icon which appears during mouse rollover.



NOTICE

- Zoom in to a specific area by holding the right mouse and draw a yellow rectangle; zoom out by a double click with the left mouse button.
- With "Ctrl" plus mouse wheel you can change the "resolution", i.e. pull values apart (if there are many).
- If you mark a value in the table, it will also be marked in the graph (X-axis).

5.4 Spectrum

Clicking on the button "Spectrum" displays the spectral curve of standard and sample. The display can be switched between:

- "By Sample"
- "By Illuminant"

By sample: Standard and each sample are displayed separately.



By illuminant: Standard and all samples are displayed for each standard illuminant separately.



The above view is obtained by using the magnifying glass.

5.5 Scatter

Clicking on "Scatter x/y" displays the CIELAB graph including the tolerances as defined in Standard Management. The light blue arc indicates the chrome, the dark blue arrow the hue direction of the standard.



Selecting a sample in the data table automatically borders the respective dot in the graph.

5.6 Grouping

The "Group" function makes it easier to visually distinguish between different tests or batches in the graph.

Color Cor	mponer	nts 🔲 I	Fl Componer	nts 📃	zero C	omponer	nts 📃	Statistic		Tolerances	
Δ Color A	Absolute	e Color 🛛 A	bsolute & ∆	Color	Ø	🖉 Grou	ıps 🔳				
Table	Lin	e So	atter x/y	/letamer	ism S	pectrum	Fluores	scence] 😑 Print	Export
BYK	Blue					D65/10	45°c:0°				^
			Aperture	dE94	L*	a*	b*	C*			
	Absolu	te Values	12mm		53,42	-16,87	-32,17	36,32	24	1 • / ``	
Charlesona		Chature				D65/10	45°c:0°				\mathbf{i}
Checkzone	-	Status	Aperture	dE94	dL*	da*	db*	dC*	d		
Match to Sta	dard										
SAMPLE 001		•	12mm	0,52	0,45	0,48	0,43	-0,60	5	1 / ••	
SAMPLE 002		•	12mm	0,92	0,81	0,24	1,05	-1,04	-		
SAMPLE 003	-	•	12mm	0,62	0,56	0,45	0,48	-0,63			
SAMPLE 004		•	12mm	0,40	0,25	0,56	0,42	-0,63			
<										0,5	/] /

- 1. Activate function "Groups".
- 2. Select samples in the table that should belong to one group.

3. Select one of the colors shown beside the function "Group". A new column showing the group color is added to the table.

4. Continue accordingly for additional groups.

6 Special Indices Analysis

6.1 Metamerism

Colors may match under one light source (e.g., daylight), but not under another (e.g., tungsten). This phenomenon is called "Metamerism" and is caused by spectral curves that cross each other. Thus, the match of standard and sample needs to be verified under different standard illuminants - the kind of light likely to be found where the product is sold or used.

			Edit Standard	X
			Cancel Apply	
Name Olive				
Color	Color Indices	Gloss	Values	
Illuminant 1 D65/10 Pass/Fail Illuminant 2 A/10 Pass/Fail	Cal	ve - Tolerances Ic Method Calculated Tole 5°c0° LCH -	ances rom spectro2guide/color2view 45°c.0° (7075) S-No.: 1	≤57222 ▼ dH* 1.24 €
Illuminant 3 F11/10 Pass/Fail		ve - Fluorescence Limit Fluorescence Limit 33 Pass/ ΔE _{sero} Limit Pass/	: bil bil	

Standard illuminants defined in the "Standard Management" ($\underline{Link}^{D 13}$) are automatically used when the corresponding standard is loaded in a project or on the instrument.

For graphical evaluation the option "Table" combined with the "Metamerism" graph is recommended.

Color Com	ponents 📃 Fl	Compone	nts 📃 ze	ro Comp	oonents	. s	itatistic	To	lerance	s	Color	Absolu	te Color	Absolu	ite & ∆ C	Color Ø	Groups	
Table	Line Sca	tter x/y	detamerism	Spect	trum	Fluoresc	ence			Print		Export.						
	Olive			D65/1	0 45°c	:0*			A/10	45°c:0°			F11/10	45°c:0	•	Closs 60		^
			Aperture	dE94	- U*	a*	b*	dE94	- U* -	a*	b*	dE94	- U*	a*	b*	01033 00		
	Absolu	te Values	12mm		59,60	-0,85	15,74		60,53	5,09	15,85		59,59	2,43	16,19	1,5		
Checkzone *	Date	Status	Aperture	dE94	0 45°C	da*	db*	dE94	dL*	da*	db*	dE94	dL*	da*	db*	Gloss 60		
Match to Stan	dard																	~
<																		
Q																		
45°c:0°																		
+dL*		+db*																
·		2																
0,5	1-2 -1		2															
0. •••		•))	+da*															
-0,5		$ \not$	- 1															
-1		-2																
-dL*		l d b*	- I															

The table shows the delta L*, a*, b* values as well as the selected color equation per standard illuminant.

In the metamerism graph, the visually perceivable color difference of one sample under the defined standard illuminants is shown.



A mouse rollover shows the standard illuminant.

6.2 Opacity

Opacity is a measure for the hiding power of a coating. It is calculated directly with the formula for the contrast ratio. Thus, a sample needs to be measured over a defined black and a white background. The result is the contrast ratio in percentage.

spectro2guide color2view - Special-Indices-Opacity												
	e Project	Add Standard		Add Test S			Add Me		ent	Opacity Mea	surement	
Properties												
 Special-Indices-Opacity Graphic Sample 001_BlkRef OverWhite 	Color Cor	nponents FI C	Compone plute & Δ	nts ze	ro Corr	iponents Group	s 🔳	Statistic	Tole	erances		
Sample 001	Table	Table Line Scatter x/y Metamerism Spectrum Fluorescence 00 🗄 Print Export										
	Sar	nple 001_BlkRef				D65/10	45°c:0°				^	
				Aperture	dE*	L*	a*	b*	Opacity	Gloss 60		
		Absolut	e Values	12mm		57,47	-0,38	-0,55		37,5		
	Checkzone *	Date	Status			D65/10	45°c:0°			Gloss 60		
				Aperture	dE*	dL*	da*	db*	Opacity			
	Match to Star	ndard										
	Sample 001	25.05.23 13:27:00	•	12mm	0,10	0,08	-0,02	-0,06	99,68	38,0		
1 checkzone(s) 0 highlighted	<											>

Click the button "Opacity Measurement" to activate the "Opacity" mode. You will be guided by smart-lab through the measurement procedure.



1. Place the part of the sample that is located on the black background on the instrument's aperture and click the button "Measure".



2. Place the part of the sample that is located on the white background on the instrument's aperture on and click the button "Measure".

3. Measurement result is shown in the table in the new column "Opactiy".

If a standard is defined in "Standard Management" including the indices for "Opacity" (Link^{D 13}), the instrument automatically switches to the "Opacity Mode" when the standard is loaded in a project or sent to the instrument.

6.3 Jetness

The color2view **Pro** can also measure jetness: Deep black results from the nearly complete absorption of visible light. L*a*b* values are not suitable for quality control of deepest black, as values become extremely small and are hardly differentiable. Thus, special indices were defined for the determination of deepest black:

- M_y: Blackness determines the lightness of black without colored undertone.
- M_c: Jetness determines the color depending black value.
- **dM**: Undertone determines the absolute contribution of hue.

By activating the "Jetness" indices (M_Y , M_C , dM) the color2view **Pro** changes to a special mode with increased accuracy for deep black samples.



If a standard is defined in "Standard Management" including the "Jetness" indices for deepest black ($\underline{\text{Link}}^{D_{13}}$), the color2view **Pro** automatically switches to the special "Jetness Mode" when the standard is called up in a project or sent to the instrument.



For graphical evaluation the option "Table" combined with the "Line Graph" is recommended.





Zoom with mouse and scroll-wheel. Unzoom with douple-click. Change scale with right mouse click (yellow rectangle).

6.4 Tinting Strength

Tinting strength is defined as a pigments ability to change the color of an otherwise colorless material. Tinting strength indices are used to compare the ratio of the sample strength in relation to the standard.

The procedure is based on the dilution with a defined white paint (e.g. mixture 20/80). Drawdowns are then made on opacity charts at complete hiding. Measurements are to be taken on the white part of the test chart.

In "Standard Management" on the tab "Color Indices" activate the tinting strength indices by using the icon "Plus (+)". The index "Apparent Strength (AppTS)" is recommended for all systems that are not mono pigmented, as it catches differences at all wavelengths.



In addition, it is recommended to activate the option "Adjust to 100%" by clicking on the appropriate check-box. With this function, the sample is theoretically corrected so that its strength corresponds to the standard (i.e. 100 %). This theoretical spectral curve is then used to calculate color difference data compared to the standard. Strength-adjusted data is useful to determine if correcting strength will result in a hue shift.



If the batch has a tinting strength < 100%, it means that it is weaker and more colorant is needed to achieve the required color shade (see e.g. the sample "Grey"). If the batch has a tinting strength > 100%, it means it is stronger and adjustment needs to be done with the binder (see e.g. the sample "Purple").

spectro2guide color2view - Sp Save Browse	Decial-Indice-Color Project Add Standard	-Strength							y Measure		
	Color Components	Components solute & ∆ Color tter x/y Metameri	zero Con Ø	Groups	Sta	atistic (Tole	erances	Print	Export	
	Checkzone *	Date	Status	Aperture	D dE*	65/10 d dL*	l:8° spin da*	db*	AppTS	∆Gloss 60	^
	Match to Standard		1								
	Grey_SAMPLE 001	25.03.19 16:06:37	•	12mm	1,05	1,04	-0,03	0,15	93,12	-0,8	
	Grey_SAMPLE 001 (AppTS Adj)	25.03.19 16:06:37	٠	12mm	0,12	0,03	-0,05	0,11	100,00	-0,8	
	Purple_SAMPLE 001	25.03.19 16:05:24	•	12mm	0,62	-0,55	0,20	-0,21	104,69	0,8	
	Purple_SAMPLE 001 (AppTS Adj)	25.03.19 16:05:24	•	12mm	0,18	-0,01	0,00	0,18	100,00	0,8	
2 checkzone(s) 0 highlighted	<										>

6.5 Fluorescence

Fluorescent pigments have been around for decades, but proper quality control has been a challenge - primarily because of the lack of suitable instrumentation.

Standard spectrophotometers do not provide accurate measurement results as the excitation of the fluorescent pigments varies depending on the built-in light source. The color2view combines a traditional spectrophotometer with a fluorimeter. In addition to a white LED, **18** monochromatic LEDs (**300 - 760 nm**) are built-in to sequentially illuminate the fluorescent material at a specific wavelength (excitation). As a result, the shifted light (emission) is detected per LED. Thus, the color2view is able to separate reflection from fluorescent components and then apply corrections for the specific standard illuminant.

Click on the button "Fluorescence" to open the "Fluorescence Slider" for professional analysis of fluorescent material. On top of the "Fluorescence Slider" you can toggle through the different monochromatic LEDs. The graph shows the shifted fluorescent energy (emission) for the chosen excitation wavelength.



In the example shown, a fluorescent standard (left) and sample (right) are compared. The selected excitation wavelength is 485 nm. The emission for both, standard and sample, ranges from 510 to 700 nm with peak at 520 nm.

However, both curves show different characteristics. While the emission of the sample drops off with a steep slope after the peak at 520 nm, the standard exhibits another broad maximum in the 600 - 700 nm range. In this case, the formulation of standard and sample differs regarding the fluorescent ingredients.

Fluorescent pigments are in general not long-term stable and will decay over time when exposed to daylight. Based on the results achieved by the spectrophotometer and fluorimeter, the color2view can predict how much the color impression of a material will change over time due to fluorescence decay. Two proprietary calculations, ΔE FL and ΔE zero, are predicting the color change with total color difference as well as individual color component deltas $\Delta LabCh$.

🔽 Color Compo	onents 📃 FI Con	nponents	zero (Compon	ents	Stati	istic 📒	Toleran	ces 🛛 🛆 Col	or Absolut	e Color Absolute & Δ	Colo
Table Line Scatter x/y Metamerism Spectrum Fluorescence 🔲 🗄 Print Export												
Star	ndard original				De	5/10 4	5°c:0°			Class CO		
					L*	a*	b*	dE94 FI	dE94 zero	GIOSS 60		
	Absolut	e Values	12mm		90,73	-1,58	-3,83	1,02		34,2		
Charkzana k	Data	Ctatur			De	5/10 4	5°c:0°			AClose 60		
Checkzone ~	Date	Status	Aperture	dE94	dL*	da*	db*	dE94 FI	dE94 zero	AGIOSS OU		
Match to Standa	rd											
SAMPLE original	26.07.18 14:28:44	•	12mm	0,67	-0,25	0,64	-0,19	0,39	2,01	-4,1		

The ΔE FL index indicates whether the standard and the sample contain fluorescence and, if so, how much. This index is calculated based on the selected color difference formula (e.g. ΔE 94) to predict how much standard or sample will change after all fluorescence has decayed. The higher the ΔE FL, the higher the proportion of fluorescent light and in the example shown the standard (ΔE FL = 1.02) will change more obvious than the sample (ΔE FL = 0.39).

Color Compo	onents 🔲 Fl Con	nponents	zero 🤇	Compon	ents	Stati	stic [Toleran	ces 🛛 🛆 Col	or Absolut	e Color Absolute & Δ Color
Table	Line Scatter	x/y Met	amerism S	Spectrur	n <mark>Fluc</mark>	prescenc			Print	Export	
Star	ndard original				De	5/10 4	5°c:0°	C 1			
		Aperture	dE94	L*	a*	b*	dE94 FI	dE94 zero	GIOSS 60		
	Absolut	e Values	12mm		90,73	-1,58	-3,83	1,02		34,2	
Charles and	D-1-				De	5/10 4	5°c:0°		101		
Checkzone *	Date	Status	Aperture	dE94	dL*	da*	db*	dE94 FI	dE94 zero	AGIOSS 60	
Match to Standa	Match to Standard										
SAMPLE original	26.07.18 14:28:44	•	12mm	0,67	-0,25	0,64	-0,19	0,39	2,01	-4,1	

 Δ Ezero predicts the future color harmony between standard and sample when all the fluorescent components of both materials have decayed. By comparing Δ E and Δ Ezero, a realistic estimation ca be made if the color harmony in the future will be equal, better, or worth than the current. In the example shown, the color harmony will decline significantly as the Δ Ezero = 2.01 > Δ E94 = 0.67.

Both indices can be activated in the standard management. Select the tab "Color" to define settings and tolerances.



Project Management



For maximum flexibility all selected parameters / indices can be changed or additional ones can be added at any time. Current projects can easily be expanded by additional sample measurements to existing test series or by adding additional test series.

7.1 Expand & Change a Project

Add Measurements

Add Samples to existing Test Series

Highlight existing test series which shall be extended by additional sample measurements:

1. Click on button "Add Measurement".

spectro2guide color2view - Pr	oject-BYK	-Blue										?	
Save Save						A							
▲ Project-BYK-Blue			1	New Mea	asuren	nent	SAM	IPLE 0	04 (0/	(3)			\mathbf{X}
C BYK Blue TESTSERIES-1 SAMPLE 001 SAMPLE 002	Color2view Pro X 45°c:0° Measure Measure Measure Measure Measure Measure												
SAMPLE 003 TESTSERIES-2 SAMPLE 001 SAMPLE 002 SAMPLE 003	Color Components Fl Components zero Components Statistic Tolerances Δ Color Absolute Color Δ Color G Groups Table Line Scatter x/y Metamerism Spectrum Fluorescence III Export												
		BYK Blue			D	65/10	45°c:0°			C1 20	C1 (0		^
				Aperture	dE94	L*	a*	b*	dE94 FI	GIOSS 20	GIOSS 60		
		Absolut	e Values	32mm		10,03	22,12	-34,55	0,00	31,0	31,0		
	Checkzone *	Date	Status	Aperture	dE94	65/10 dL*	45°c:0° da*	db*	dE94 FI	Gloss 20	Gloss 60		Ш
	Match to Stan	ıdard											
	SAMPLE 001	07.12.23 11:10:49	•	32mm	0,57	0,10	-0,37	0,43	0,00	31,1	31,1		
	SAMPLE 002	07.12.23 11:11:06	•	32mm	1,08	0,50	-0,69	0,66	0,00	31,1	31,1		
	SAMPLE 003	07.12.23 11:11:11	•	32mm	0,99	0,42	-0,40	0,81	0,00	31,0	31,0		~
3 checkzone(s) 0 highlighted	<												>

- 2. Perform the required readings on the new sample.
- 3. Click on "Measure Next Sample" to continue or on "End test Series" to finish.
- 4. Optional: Rename the new sample by clicking into the name field.

Add new Test Series

Highlight standard which shall be extended by an additional test series:

- 1. Click on button "Add Test Series".
- 2. Click on "Measure Test Series".

<pre>spectro2 color2vie</pre>	guide ew - Project-B\	′K-Blue*		_		? 🗙
				Add Measurement		
Project-BYK-Blue				Add Test Serie	25	\mathbf{X}
 TESTSERIES-1 TESTSERIES-2 				Measure Test Series	5	
C	BYK smart-chart		×	Load from Database	e	
ĺ	TESTSERIES-3			Download from Instrum	ment	
L	_	OK	Cancel			
7 checkrone(c) () bioblighted						

3. Enter a name and click on "OK".

spectro2guide color2view - P	roject-BYK-Blue* e Project Add Standard Add Test Series Add Measurement Opacity Measurement Properties	? 🗙
 Project-BYK-Blue C BYK Blue TESTSERIES-1 TESTSERIES-2 TESTSERIES-3 	New Measurement SAMPLE 001 0 / 3) Control of the series	×
0 checkzone(s) 0 highlighted	Color Components FI Components zero Components Statistic Tolerances Δ Color Absolute Color Absolute & Δ Color Ø Groups Groups Table Line Scatter x/y Metamerism Spectrum Fluorescence III Print Export	

- 4. Perform the required readings on the first sample.
- 5. Click on "Measure Next Sample" to continue or on "End test Series" to finish.

Add new Standard

An existing project can be extended with additional standards:

1. Click on button "Add Standard" and measure it or load an existing standard from the standard database or download it from the instrument.

Add Standard	
Measure	
Load from Database	
Download from Instrument	

2. Enter a name for the new standard and measure it.

					Measure standard STANDARD-1 1/1)	×
					- color2view Pro X 45°c:0° Measure Apply	
D6	5/10 45	°c:0°	Gloss 60	Gloss 20		^
L99o	a99o	b99o	Gloss 60	Gloss 20		
11,68	16,21	-24,32	30,92	30,92		

3. Click on the button "Apply" to save the new standard in the project.



IMPORTANT!

Additional standards and measurements can make a project complex. It is recommended to save new standard(s) in a separate project.

Change selected Parameters

All defined settings (e.g. illumination, observer, color indices, color equation, tolerances, etc.) can be easily changed or edited. Select the standard in the navigation tree and click on the button "Properties".

Change Difference Method

Select the tab "Color" and apply the required changes.

spectro2guide color2view - F	e Project-BYK-Blue*		? 🗙											
		Add Test Series Add Measurement Opacity Measurement Properties												
▲ Project-BYK-Blue		Edit Standard	×											
Cr BYK Blue TESTSERIES-1 TESTSERIES-2 TESTSERIES-3 SAMPLE 001 SAMPLE 002	Name STANDARD-1	Cancel Apply												
SAMPLE 002	STANDARD-1 - Settings	Color Color Indices Gloss Values STANDARD-1 - Settings STANDARD-1 - Measurement Geometry												
	Statistics Geometry Statistic Options 45°c0° d.8°													
	Off Off n std n Sample 1 Fixed statistic	STANDARD-1 - Difference Method dE 2000 dE 2000 dE 2000 PF dE 2000 1												
0 checkzone(s) 0 highlighted	Measurement Screen Standard / Delta	dE 990 dE cmc dE DIN 6175 2019 dE scm dF CN dE cmc dE c	¥											

The values are recalculated according to the selected difference method. A note appears at the top of the screen.

	spectro2q	uide	Values were recalculated d	ue to a modification of the	standard settings - statisti	ics might be missing. 🛛 💥		? 🗙				
color2view - Project-BYK-Blue*												
	Save 🔹	Browse Project	Add Standard	Add Test Series		Opacity Measurement						

Confirm the message by clicking on the small gray cross.

Add Color Indices

To add additional indices select the tab "Color Indices" in the content section. Highlight the required index and add it using the "Plus" button.



After each change click on button "Apply" and use the button "Save" in the ribbon to save your modifications in the project.

7.2 Compare Projects

Projects can be compared by opening several projects at the same time or by adding another project to an open one.

Open several Projects

In the project list box select the desired projects and click on "Open".



Open additional Project

1. Within a project click the button "Browse Project" to open a 2nd project.

spectro2guide color2view - Pr	oject-BYI	K-Blue-Da Add Standard	rk	Add Test S	eries		Add Mea	suremen	it)pacity Mea	surement	Properties	?	X
 Project-BYK-Blue-Dark C BYK Blue TESTSERIES-1 TESTSERIES-2 TESTSERIES-3 	Color Cor Groups	nponents FI (Compone ter x/y	nts ze	ro Comp Spect	rum I	S S	tatistic	Tolera	nces 🔼 Print	Color Ab	solute Color Absolute & A Color	Ø	
♦ ♂ STANDARD-1		D65/10 45*c:0° Aperture dE94 L* a* b*					dE94 FI	Gloss 20	Gloss 60			^		
		32mm		10,03	22,12	-34,55	0,00	31,0	31,0					
	Checkzone *	zone * Date		Aperture	dE94	D65/10 dL*	45°c:0° da*	db*	dE94 FI	Gloss 20	Gloss 60			
	SAMPLE 002	07.12.23 11:47:18	•	32mm	1,14	0,31	-0,84	0,71	0,00	31,0	31,0			
	SAMPLE 003	07.12.23 11:11:11	•	32mm	0,99	0,42	-0,40	0,81	0,00	31,0	31,0			
	SAMPLE 003	07.12.23 11:11:36	•	32mm	0,60	0,17	-0,46	0,36	0,00	30,9	30,9			
	SAMPLE 004	07.12.23 11:37:27	•	32mm	0,41	0,16	-0,21	0,32	0,00	30,7	30,7			
9 checkzone(s) 0 highlighted	<													>

2. Navigate to the file for the project to be compared, select it and click on "Open".

Open						×
← → ∽ ↑ 🔒 > 320-DSK-P05	47 → Daten (D	:) > Smart-Chart > Smart-Lab > Project	s > C2V		✓ Õ	h C2V
Organize 👻 New folder						::: •
Smart-Lab	^	Name	Date modified	Туре	Size	^
Backups		Project-BYK-Blue.scproj	07.12.2023 11:22	SCPROJ File	19 KB	
Exports		Project-BYK-Blue-Dark.scproj	07.12.2023 12:21	SCPROJ File	33 KB	
Printouts		Project-BYK-Blue-Deep.scproj	07.12.2023 12:23	SCPROJ File	21 KB	
Projects	~	Project-BYK-Blue-Offline.scproj	06.12.2023 15:22	SCPROJ File	26 KB	~
File <u>n</u> ame: Proj	ect-BYK-Blue-D)eep.scproj			∽ smart-char	t Project (*.scproj;*.x ∨
					<u>O</u> pen	Cancel

Compare Project Data

The measurement data in all open projects is displayed. To identify samples it is recommended to add the column "Standard" to the table.

BYK smart-chart - Version 8.5.1 R	elease 25775													-		×
spectro2guide color2view - F	e Project-BYI se Project	K-Blue-D	ark*, Proje	ect-B'	YK-Blu	e-De	eep ^{sureme}	nt	Ора	city Measu	rement	Prope	rties)	?	
 Project-BYK-Blue-Dark BYK Dark Blue TESTSERIES-1 TESTSERIES-2 TESTSERIES-3 	Color Cor Groups	nponents 📄 F	H Components	zero Co rism Sp	omponents Dectrum Fl	UOTESCE	atistic nce	от С		es 🔼 Co	olor Absolu	ute Color A	bsolute & Δ	Color	Ø	
 Issistance of the state of the	Checkzone *	Standard	Date	Status	Aperture	dE94	D(dL*	55/10 4 da*	db*	dE94 FI	dE94 zero	Gloss 20	Gloss 60			^
🔺 👉 BYK Deep Blue	Match to Star	lard					_									
TESTSERIES-1	SAMPLE 001	BYK Deep Blue	07.12.23 13:22:21	•	32mm	0,83	0,22	-1,63	0,67	0,00	0,83	31,3	31,3			
TESTSERIES-2	SAMPLE 001	BYK Deep Blue	07.12.23 13:23:05	•	32mm	0,07	0,03	-0,07	0,18	0,00	0,07	31,3	31,3			
	SAMPLE 001	BYK Dark Blue	07.12.23 11:10:49	•	32mm	0,57	0,10	-0,37	0,43	0,00	0,57	31,1	31,1			
	SAMPLE 001	BYK Dark Blue	07.12.23 11:11:27	•	32mm	1,12	0,39	-0,77	0,72	0,00	1,12	31,2	31,2			
	SAMPLE 001	BYK Dark Blue	07.12.23 11:47:12	•	32mm	1,07	0,27	-0,85	0,59	0,00	1,07	31,1	31,1			
	SAMPLE 002	BYK Deep Blue	07.12.23 13:22:50	•	32mm	1,12	0,62	-1,92	1,02	0,00	1,12	31,0	31,0			
	SAMPLE 002	BYK Deep Blue	07.12.23 13:23:10	•	32mm	0,73	0,25	-1,39	0,50	0,00	0,73	31,7	31,7			
	SAMPLE 002	BYK Dark Blue	07.12.23 11:11:06	•	32mm	1,08	0,50	-0,69	0,66	0,00	1,08	31,1	31,1			
	SAMPLE 002	BYK Dark Blue	07.12.23 11:11:32	•	32mm	0,67	0,18	-0,45	0,45	0,00	0,67	31,2	31,2			~
15 checkzone(s) 0 highlighted	<															>

7.3 Share Project Files

The project file(s) can easily be shared, e.g. by email or via a file share.

📙 🛃 📮 D:\Smart-Chart\Smart-Lab	\Projects			_	- 🗌	×
File Home Share View						~ ?
Pin to Quick Copy Paste access Copy Paste	Move Copy to v to v	New item •	es 🔗 History	Select all Select none Invert selection		
Clipboard	Organize	New	Open	Select		
← → · ↑ 🔒 « Daten (D:) → Smart	-Chart > Smart-Lab > Projects	ب ن	Search Projects			
Smart-Chart	^ Name	Date modified	Туре	Size		
Download	📓 Standard-BYK-Blue.xml	03.11.2023 13:01	XML File	e	86 KB	
Releases						
Smart-Lab						
Backups						
Exports						
Printouts						
Projects						
Specials						
Standards						
Smart-Process	v					
1 item 1 item selected 85,0 KB						

On the target system the file can be opened in smart-lab in the usual way.

7.4 Export to Excel

Click the button "Export" to export the selected measurement data to MS Excel.

 spectro2guide color2view - Pr 	oject-BY	(-Blue	e										? 🗙
Save Browse	Project	Add St	andard		Add Tes	t Series				t Op	oacity Measure		
 Project-BYK-Blue C* BYK Blue Batch_2023_05_25 Batch 2023 05 26 	Color Com	nponents bsolute Co	FI Com	iponents e & Δ Ci	s a s	zero Com	ponents Groups	s s	tatistic	Tolerar	lices	Front	
 ▶ Batch_2023_05_30 ▶ Batch_2023_06_01 	Table BYK BI	Line	Scatter	¢∕y Me	tameris D65,	m Spec	trum F	luoresce	ence		Print	Export	^
Batch_2023_06_22	Absolu	ite Values	Aperture	dE00	L* 53,42	a* -16,87	b* -32,17	C* 36,32	H* 242,33	Gloss 60 73,8			
	Checkzone *	Status	Aperture	dE00	D65, dL*	/10 45°c da*	:0° db*	dC*	dH*	Gloss 60			
	Match to Stan	dard											
	SAMPLE 001	•	12mm	0,51	0,45	0,48	0,43	-0,60	0,23	10,4			
	SAMPLE 002	•	12mm	0,88	0,81	0,24	1,05	-1,04	-0,28	10,1			
	SAMPLE 003	•	12mm	0,61	0,56	0,45	0,48	-0,63	0,18	10,6			
	SAMPLE 004	•	12mm	0,40	0,25	0,56	0,42	-0,63	0,31	10,6			
4 checkzone(s) 0 highlighted	<												\rightarrow

Type in a name and select a folder for export; the data is exported and the file is opened in MS Excel. The Excel file can be modified, saved and shared.

	A	Н	I	J	K	L	Μ	N	0	P
1							11.22	.2022		
2	Pale Gray 2					D6	5/10 4	5°c:0°		
3				Aperture	dEcmc	L*	a*	b*	dEcmc Fl	dEcmc zero
4		Absolute V	alues	12mm		80,52	-1,29	2,68	0,00	
5			D65/							
6	Checkzone	Date	Status	Aperture	dEcmc	dL*	da*	db*	dEcmc Fl	dEcmc zero
7	Match to Standa	ard								
8	Average	30.03.2023 15:14		12mm	0,35	0,85	0,01	0,13	0,00	0,35
9	Left Door	22.11.2022 10:22	Pass	12mm	0,39	0,89	0,02	0,17	0,00	0,39
10	Lower Drawer	22.11.2022 10:22	Pass	12mm	0,33	0,86	0,01	0,09	0,00	0,33
11	Right Door	22.11.2022 10:22	Pass	12mm	0,38	0,87	0,01	0,16	0,00	0,38
12	Upper Drawer	22.11.2022 10:22	Pass	12mm	0,32	0,80	0,00	0,10	0,00	0,32

If measurement **and** spectral data are to be exported, select file type "Excel with spectrum".

Save As				×
\leftarrow \rightarrow \checkmark \uparrow \blacksquare « Manuals \rightarrow 5-So	ftwares > Smart-Chart > Projects	ب ن	Search Projec	ts
Organize 🔻 New folder				EE • ?
Open-Source	^ Name	Date modified	Туре	Size
Smart-Chart	Project-BYK-Blue-2023-06-22.xlsx	22.06.2023 11:56	Microsoft	21 KB
Apple				
Backup				
Database				
Drafts				
- Inputs				
Projects	~			
File <u>n</u> ame: Project-BYK-Blue-20	23-06-22.xlsx			~
Save as <u>t</u> ype: Excel with spectrum	(*.xlsx;*.xlsm;)			~
∧ Hide Folders			<u>S</u> ave	Cancel .::

Selecting this file type creates an additional tab "Spectral data" in the export file.

7.5 Print Report

It is also possible to create a PDF file or print out of the selected measurement data:

1. Click the button "Print" to open the report module.

Color Com	nponents 🔲 I	FI Compo	nents 📒	zero Com	ponents 📃	Statistic 🚺	Tolerance	25		
Δ Color A	bsolute Color A	bsolute &	Δ Color	0	Groups					
Table	Line So	atter x/y	Metame	rism Spec	trum Fluore	scence		Print	Export	
	Pale Gray 2 D65/10 45°c:0°									^
			dEcmc	dEcmc dEcmc FI dEcmc		GIUSS OU	GIUSS OU			
	Absolut	e Values	0,00			12,6	12,6			
Checkzone *	Date	Status	dEcmc	dEcmc FI	dEcmc zero	Gloss 60	∆Gloss 60			
Match to Stan	dard									
Average	30.03 16:32:40	•	0,35	0,00	0,35	14,6	2,1			
Left Door	22.11 10:22:26	•	0,39	0,00	0,39	14,8	2,2			
Lower Drawer	22.11 10:22:50	•	0,33	0,00	0,33	15,1	2,5			
Right Door	22.11 10:22:33	•	0,38	0,00	0,38	14,6	2,1			
Upper Drawer	22.11 10:22:42	•	0,32	0,00	0,32	14,0	1,4			
<										>

2. On the right side the report content and layout can be controlled according to the options specified by the button "Configuration".



3. By clicking on "Configuration" different report templates for specific applications / customers can be configured and saved.

4. It is possible to enable specific content to be printed (e.g. the line graph), to change the logo in header and/or title page and much more.

SYK smart-chart				-		×
spectro2guide/color2view -	Lab Save Delete Expor	L. Import.				
Reports Wochenbericht Standardbericht	Table Table Table Charts Une graph Color Metamerism Scatter Color Hue graph Color Bage Inder Page Inder	Report Structure Search P Template settings Components Page footer Page header Time page Single page Single page area Table Line graph Color Spectrum Spectrum Text	Title page Comment ✓ Date ✓ Instrument Name Logo Browse Clear		4	

5. It is also possible to use the structure element "Single page area" to print all selected content to just one page.

6. With "Single page area", the landing areas for the individual contents can also be moved on the page and adjusted in size.



The desired elements can be dragged and dropped to their target position in the structure. The landing areas can also be edited using drag & drop.

7.6 Save to Database

The button "Save" in the ribbon saves all data in the project file. It is also recommend to save the data to the databases in regular intervals:

- Save the standard in the standard DB
- Save the measured data in the measurement DB

These options are available in the context menu for the standard.

spectro2g color2viev	uide V Browse Project Add	Standard	Add Test S	eries		\dd Mea	sureme	nt	Opacity Mea	asurement	Properties			? 🗙
 Project-BYK-Charcoal-Gr C BYK Charcoal Batch_2023_0 Batch_2023_0 	ey Color Components Copy Cut Parte	s FI Compon Ctrl+C Ctrl+X Ctrl+V	ents ze	ro Comp Spect	rum F	S luoresce	tatistic ence	Tole	rances	Color Absolut	e Color Absolute	e & ∆ Color	Ø	Groups
▶ Batch_2023_0	Delete	Del	Aperture	dE94	L*	a*	b*	dE94 FI	Gloss 60					
	Collapse All Expand All Select All	Ctrl+A	12mm Aperture	D dE94	28,07 65/10 4 dL*	-1,07 45°c:0° da*	-3,04 db*	0,00 dE94 FI	7,2 Gloss 60					
	Select All by Sort alphabetically		12mm	0,13	-0,12	-0,01	-0,05	0,00	7,1					
3 checkzone(s) 0 highlighted	Save Standard in Standard DB Save Test Series in Measurement I	DB F9	12mm	1,54	1,46	-0,43	-0,33	0,00	6,7					↓

Details on database handling can be found in section "Configuration" (Link^{D_{52}}).

Save Standard

To save a color standard in the standard DB:

1. On standard select "Save Standard in Standard DB" from menu to open the import dialog.

🜔 BYK smart-chart						_	· 🗆	×
Name	🛢 Datab	ase			🚳 smart-lab			
	Date	Time			Name	Date	Time	
& BYK Charcoal Grey			<	2 + -	BYK Charcoal Grey	6/22/2023	12:13 PN	
						ОК	Cancel	

2. Click on "OK" to save the standard in the standard DB.

3. It will be saved in the color family "Various Standards".

The local standard DB is located in "C:\ProgramData\BYK\smart-chart 3.0\bykmainDB_3". If the local DB is used, no selection is required.



NOTICE

If an existing standard has been edited or changed, it is to be saved in the standard DB under a new name.

Save Measurements

To save measured data in the measurement DB:

1. Select option "Save Test Series in Measurement DB" from context menu.



2. Select a database file and click on "Select" to open the required database.

		Save Test	Series	×
smart-lab Import	Save data	Test series name →	Par 1 Advanced	
Search P		Name Parameter 1	Date Standard Parameter 3	Parameter 4 Parameter 5
Import Filter All (3)	>	Batch_20	6/22/2023 12:13 PM BYK Charcoal Grey	
Organizer (None) (3)	>	Batch_20	6/22/2023 12:13 PM BYK Charcoal Grey	
Empty) (3) Standard BYK Charcoal Grey (3)		Batch_20	6/22/2023 12:13 PM BYK Charcoal Grey	
Parameter 3 (Empty) (3)				

3. Mark the test series to be saved and click on button "Save data".

The default measurements DB is located in "C:\ProgramData\BYK\smart-chart 3.0\Measurement-Data".

8 Configuration



8.1 General Options

Select the "Language" of the user interface in smart-chart and restart the application to apply your selection.



Switch options "Autosave" and / or "Auto close" for smart-lab on or off and define their time interval.

Categ	ory	Options	
$\mathbf{\nabla}$	Options General Properties, Language, etc.	Hide .bat window	•
୯	Standard Database Standard and Organizer database settings	Batch file:	
品	Instruments Rename and filter instruments and enter the network settings to detect the instruments.	Smart-lab Autosave Auto close 10 min 1 h	
	Measurement Database Measurement database settings	Precision mode haze-gard i	J

Using these options you can save your work automatically in regular intervals.

8.2 Standard Database

Define standard database:

- Select "Standard Database".
- Select "Local database file".
- Alternatively select "SQL Server connection".

Category			Standard Database					
V	Options General Properties, Language, etc.	-	Local database file C:\ProgramData\BYK\smart-chart 3.0\bykmainDB_3.sdf					
୯	Standard Database Standard and Organizer database settings		SQL Server connection					
器	Instruments Rename and filter instruments and enter the network settings to detect the instruments.		Edit					
	Measurement Database Measurement database settings	-						



NOTICE

The "Local database file" is created in "C:\ProgramData\BYK\smart-chart 3.0\bykmainDB_3". This path can not be changed. If the standard database remains on a server in the network use option "SQL Server connection" for configuration.

8.3 Measurement Database

Define measurement database:

- Select "Measurement Database".
- To create new DB, select "Add database" and enter a name for the new file.
- To use an existing DB, select "Link existing database" and navigate to the file.





NOTICE

As default, the measurement database is created in "C:\ProgramData\BYK\smart-chart 3.0\Measurement-Data".

8.4 Delete Measurements



NOTICE

It is recommended to create a backup of the database file before deletion of data.

Test series not required anymore can be deleted from the database:

- Select "Measurement Database".
- Select the required measurement database.
- Select "Delete Data".

De	elete Database link	Delete Data				
Auto	o data extract → DB					
	Password					
	Demo-spectro2gu C:\Demo-spectro2guid	ide-Fridge-dECIELAB e-Fridge-dECIELAB.sdf	•			
Measurement-Data-Default-DB C:\Measurement-Data-Default-DB.sdf						
Connection string: Data Source = 'C:\ProgramData\BYK\smart-chart 3.0\Measurement- Data-Default-DB.sdf';Max Database Size = 4050;;						

The database is opened for the deletion of test series. This dialog is similar the module "Data Analysis".

Cont	iguration																	X
		Search 🔎		Search 🔎		Search 🔎		Search 🔎		Search ${\cal P}$		Search 🖌		Search	P		Search 🖌	P
Status •	(All) <	Parameter 1 Absolute Compact pickup station STXXK Testserie 001	*	Apple-Silver Black - 654321 Brown-Multi BYK Blue BYK Charcoal G BYK Dark Blue BYK-Blau		Parameter 3 (Empty) 00 01 Paintline 1 Paintline 2 PL 1		Parameter 4 (Empty) Created with sime Microns This is a commen This is a comment	•	Parameter 5 (Empty) 00000098020041 123456 234567 345678 Vehicle 123456	1	Instruments BYK-mac BYK-mac i film thickness spectro2guid spectro2gu	23n e/cc uide 🗸	III / Obs (Empty) 10 1192940 1210833 1213324		•	Checkzone 201 202 203 204 205 4	4
				4	•	PL1	Ŧ	4 •		4	Ц	4	Þ	1257222		Ŧ	5	-
C Reload Remove data																		
Status	Date	nstrument	_	Standa	rd	Name	_	Param1 P	aran	n3 Param4 Paran	m5	III / Obs				_		_
•	07.12.2023 12:35:42 : 07.12.2023 12:35:42 : 07.12.2023 12:35:42 :	spectro2guide/color2 spectro2guide/color2 spectro2guide/color2	view view view	(45°c:0° BYK D) (45°c:0° BYK D) (45°c:0° BYK D)	ark Blu ark Blu ark Blu	e TESTSERIES-1 e TESTSERIES-3 e TESTSERIES-2												

To delete specific test series:

- Define the filter criteria on the top.
- Select "Reload" to apply the filter criteria.
- Select the test series to be deleted with "Ctrl" and/or "Shift".
- Select "Remove data" to delete the selected datasets.

8.5 Share Database

To share the complete measurement database:

- Under "Category", select "Measurement Database".
- All measurement databases are shown on the right side.
- Select the one you want to share.
- The folder were it is stored is displayed at the bottom as "Connection String Data Source".

Category			Measurement Database					
器	Instruments Rename and filter instruments and enter the network settings to detect the instruments.	SQL Server connections						
	Measurement Database Measurement database settings		Delete Data					
몲	Auto Import Configure the automatic measure db import for instruments.	A	uto data extract → DB Password					
	Database Backup Database backup settings		Demo-spectro2guide-Fridge-dECIELAB C:\Demo-spectro2guide-Fridge-dECIELAB.sdf					
E	Organizer Management Remove unused catalog entries or checkzones	Cont	Measurement-Data-Default-DB C:Measurement-Data-Default-DB.sdf					
	Schematics Manage custom schematics	Data Data	Source = 'C:\ProgramData\BYK\smart-chart 3.0\Measurement- -Default-DB.sdf;Max Database Size = 4050;;					

Close smart-chart, open Windows Explorer and navigate to the appropriate folder and create a ZIP archive of the *.sdf database file to make sure it can be sent safely by email.

I Image: State of the stat						-		× ^ ?
	Copy to	New item •	Properties	Select all Select none				
Clipboard	Organize	New	Open	Select				
← → ~ ↑ 📙 > 320-DSK-P0547 > System (C:)	→ ProgramData → BYK :	> smart-chart 3.0		ٽ ~		3.0		
smart-chart 3.0	Name			Date modified	Туре	Size		^
Cisco Systems	Measurement-Data-	C 1 1 22 11		07.12.2023 14:04	SDF File	41.664 KB		
Citrix	bykmainDB 3.sdf	Open with		07.12.2023 14:04	SDF File	3.648 KB		
Cyvera	ApplicationSettings.	🛛 🔀 Edit with Notepad+	<u> </u>	2/ 11 2023 13:31	CONEIG Eile	5.KR		
Dell	bykmainDB_3-2023.	7-Zip	>	Öffnen				
FreePDF	Measurements-WST	Scan with Cortex XI	DR	Öffnen			>	
Intel	bykmainDB_3-Robot	t 🖻 Share		Dateien entpacken				
Intel Package Cache/1CEAC85D-2590-476	Refrigerator.sdf	Restore previous ve	rsions	Hier entpacken				
Intel Package Cache (ICERCOSD-2550-410	Plant-01-spectro2gu	Send to	>	Entpacken nach "Measureme	ent-Data-Default-DB\"			
	Demo-spectro2guid	e Cut		Archiv überprüfen				
Intel Package Cache (182eb/a8-18c/-4/2b	Plant-02-spectro2gu	Conv		Zu einem Archiv hinzufügen				
Microsoft	bykmainDB_3-2022.s			Archivieren und versenden				
Microsoft OneDrive	eb/60d83-9ebt-45a0	Create shortcut		Hinzufügen zu "Measuremer	nt-Data-Default-DB.7z"			
Microsoft Visual Studio	aa0195c0-ta64-4///-	Delete		Archivieren in "Measuremen	t-Data-Default-DB.7z" un	id versenden	_	
Mozilla-1de4eec8-1241-4177-a864-e594e8	10UCDC83-9713-4138-	Rename		Hinzufügen zu "Measuremer	nt-Data-Default-DB.zip"			~
23 items 1 item selected 40,6 MB		Properties		Archivieren in "Measuremen	t-Data-Default-DB.zip" u	nd versenden		
		L		CRC SHA			>	

The example above shows how to quickly create ZIP archives with "7-Zip".

8.6 User Groups

Using the option "User groups" smart-chart can be limited to have only required functions assigned.

Category		User Groups
Manage custom schematics	•	Add Delete Save
Catalogs Manage catalogs.		spectro2profiler 🔹
Tolerance Groups Manage tolerance groups.		spectro2guide - lab & process color2view - lab & process
User Groups Manage user groups and permissions	•	color2view - smart-lab

A user with administration right can assign selected "Access Permissions" to specific user groups.



These user groups will be displayed during start-up for login.

8.7 Data Backup

Backup of measurement data is very important to avoid any data loss. Running the back up at least once a week is recommended. In module "Configuration" an automatic backup procedure can be defined.

Catego	ory		Database Backup
	Measurement Database Measurement database settings	*	Interval Weekly
몲	Auto Import Configure the automatic measure db import for instruments.		Backup database files
	Database Backup Database backup settings		Advanced
4	Organizer Management Remove unused catalog entries or checkzones	Ŧ	Backup Folder D:\Smart-Chart\Smart-Lab\Backups\D; Browse

To backup the complete database:

- Under "Category", select "Database Backup".
- For the backup interval select "Weekly".
- Use the "Arrow down" in front of "Advanced" to activate "Automatic Backup" and the "Browse" button so select a backup folder on your computer.
- A folder with the name shown below is created:
 - The name includes date and time of the backup.
- The standard database as well as all linked measurement databases are saved.

The backup is automatically done when smart-chart is terminated.

📊 🛃 📊 🛨 D:\Smart	-Chart\Smart-Lab\Backups\Database						- 🗆	\times
File Home Share	View							~ ?
Navigation Details pane	Extra large icons Small icons Ites Ites	tin Medium icons tin Details transformer to the time time time time time time time tim	Group by ▼ M Add columns N Sort by ▼ Size all column	ns to fit	 Item check box File name extent Hidden items 	nsions Hide selected items	Options	
Panes	Layout		Current view		Sho	w/hide		
← → ∽ ↑ 📙 « Da	aten (D:) > Smart-Chart > Smart-Lab	> Backups > Database	~	Ō	🔎 Search Data	base		
Smart-Lab		^ Name	^	Dat	te modified	Туре	Size	
Backups		smartchart k	ackup 20231124 14.01.24	24.	11.2023 14:01	File folder		
Database		smartchart_k	ackup_20231127_15.20.24	27.	11.2023 15:20	File folder		
smartchart_	backup_20231124_14.01.24							_
smartchart_	backup_20231127_15.20.24							
Printouts								
Projects								
Exports		~						
2 items 2 items selected								

Save all backup files on a second place, e.g. on a network drive, an external hard disk or a USB flash drive.

Notes

Notes

A member of **C** ALTANA

Download your manuals from: https://www.byk-instruments.com/p/7600

Download your software from: https://www.byk-instruments.com/software#color2view

BYK-Gardner GmbH Lausitzer Strasse 8 82538 Geretsried Germany

Tel +49 8171 3493-0 Fax +49 8171 3493-140

info.byk.gardner@altana.com www.byk-instruments.com

