Color Control and NEW Prediction of Color Stability

spectro2guide

Three in One
Color. Gloss. Fluorescence.

The spectro2guide spectrophotometer represents the next step in the evolution of color measurement. **Colo**r and **60° gloss** are measured simultaneously. Completely new is the prediction of **color stability** by measuring like a fluorimeter with monochrome illuminations. spectro2guide ensures color harmony and analyzes color stability – objective measurement results for today and the future.

Lightfastness
Excited. Emitted. Shifted.

Lightfastness is analyzed with prorietary calculations predicting color change with two new indices: ΔEFI and ΔEzero. The new index DEFI is a measure for the amount of fluorescent light – important to know as sunlight exposure can cause color fading. In addition, the new DEzero predicts the color change of a sample pair after the fluorescence has degraded.
The excitation and emission range of fluorescent behavior is displayed with the slider function in smart-lab.
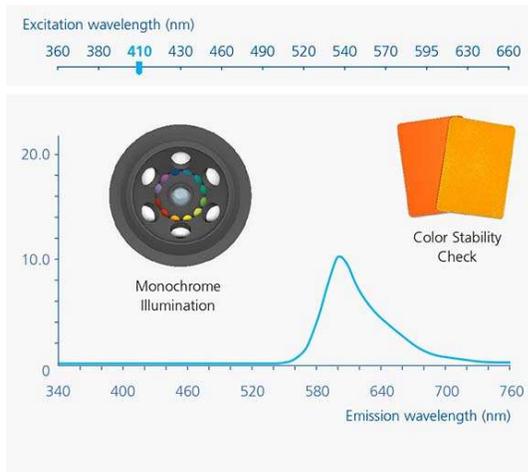
Perfectly formed Design
Approachable. Balanced. Upfront.

The new instrument follows a very simple rule, which is not so easy to put into practice: "Form follows function". Due to its balanced and upfront design, the display is always in the right position and easy-to-read, whether on horizontal, vertical, large or small surface areas – even true for overhead work. You no longer need to bend out of shape for measurement and data reading. The display flips around for you.

Brilliant Color Display
Swipe. Touch. Measure.

As for mobile phones, there is a trend towards ever-larger displays. The new spectro2guide is completely in line with this trend offering a 3.5" color touchscreen – the largest on the market. An icon-based menu, colorful data tables and graphics ensure an intuitive smart phone like operation. As you are used to, you can touch or swipe with your fingers – it even works when wearing gloves. Alternatively, you also can use a stylus, which is enclosed in the housing – always handy.

Preview with Camera
Strike. Score. Save.

An integrated camera shows a live preview of the measurement spot. To ensure precise positioning and to prevent false readings on imperfections or scratches, the measurement spot is magnified by a factor of 4.5:1. It is so easy – just press the measurement button halfway and the live preview is active.

BYK LED Technology
High-tech. Smart. Experienced.

The spectro2guide uses innovative, high-tech LED technology as light sources. Smart testing combined with our long-standing experience guarantees an outstanding performance of the LEDs. Short-term, long-term and temperature stability as well as a homogeneous illumination spot are unsurpassed in the industry. As a result, a superior accuracy and excellent inter-instrument agreement allow use of digital standards. One binding reference eliminates sources of error and physical standards no longer need to be exchanged.

Smart Docking Station
Park. Charge. Control.

As first spectrophotometer on the market, the spectro2guide offers auto diagnosis and an automatic calibration reminder. The spectro2guide with the docking station make a perfect couple – the white checking standard is always protected and a reliable operation is guaranteed. The docking station automatically charges the instrument. You only have to park the spectro2guide, the rest happens automatically. The smart docking station offers you a 2-in-1 advantage: Be ready at any time, be safe at any time – do not lose time with charging and daily performance checking by hand.

Flexible Data Transfer
Wireless. Boundless. Flawless.

The spectro2guide offers three possibilities to transfer data: Via docking station - USB cable - wireless with WiFi. Dependent on your needs, data analysis can be done with either smart-lab or smart-process:

smart-lab for ONLINE measurement and memory transfer
- Data analysis in all color systems with scatter and line graphs
- Color stability check with fluorescent slider
- Data is organized in projects with easy to share xml files

smart-process for a STANDARDIZED QC:
- Sampling process with digital standards defined in Organizers
- Data are saved in a sdf database
- Comprehensive data analysis with easy filtering and statistical analysis

In compliance with:

Standards	Color	Gloss
ASTM	D2244, E308, E1164	D523, D2457
DIN	5033, 5036, 6174	67530
DIN EN ISO	11664	
ISO	7724 (withdrawn)	2813, 7668

Ordering Information

Cat. No.	Description
7070	spectro2guide, d/8
7075	spectro2guide, 45/0

Comes complete with:
Spectrophotometer
Docking station with built-in diagnosis standard
Color and gloss test standard
White calibration standard
Certificate
Software with two licensees for download:
smart-lab Color (7083) or smart-process Color (7084)
USB interface cable type B/A to connect docking station to PC (7077)
USB online cable type C/A for data transfer (7078)
Stylus (7079)
Protective cap (7076), hand strap
Short Instructions
Carrying case
1-day training

Note: After installation both software packages, smart-lab Color and smart-process Color, can be used for 30 days free trial. Thereafter, the user needs to decide and register for one software package.

System requirements:
Operating system: Windows® 10 v.1607
Microsoft® .NET Framework 4.72
Hardware: i3, 2.5 GHz; i7 recommended, or equivalent
Memory: 4-8 GB RAM, 16 GB recommended
Hard-disk capacity: 4 GB during installation
Monitor resolution: 1280 x 1024 pixel or higher
Interface: free USB-port

Technical Specifications

Color Geometry	Gloss Geometry	Color Aperture	Gloss Aperture
d:8° (spin/spex)	60°	12 / 8 mm	5 x 10 mm
45°c:0°	60°	12 / 8 mm	5 x 10 mm

Color

Spectral Range Color	400 – 700 nm, 10 nm resolution
Spectral Range Fluorescence	340 – 760 nm, 10 nm resolution
Measurement Range	0 – 170% reflection
Repeatability [1]	0.01 ΔE94 (10 readings on white)
Reproducibility [1]	0.1 ΔE94 (average of 12 BCRA tiles)
Color Systems	CIELab/Ch, Lab (h), XYZ, Yxy
Color Differences	ΔE*, ΔE(h), ΔECMC, ΔE94, ΔE99, ΔE2000
Indices	YIE313, YID1925, WIE313, CIE, Berger, Color Strength, Opacity, Metamerism, Grayscale
Fluorescent Indices	ΔEFL, ΔEzero
Illuminants	A, C, D50, D55, D65, D75, F2, F6, F7, F8, F10, F11, UL30
Observer	2°, 10°

Gloss

Measurement Range	**0 – 20 GU**	**20 – 100 GU**
Repeatability [1]	± 0.1 GU	± 0.2 GU
Reproducibility [1]	± 0.2 GU	± 1.0 GU

General Data

Memory	4.000 standards and 10.000 samples
Languages	English, French, German, Italian, Spanish, Russian, Japanese, Chinese
Interface	USB-C (instrument), USB-B (docking station)
Battery	7.2 V, 2350 mAh, 16.92 Wh
Dimensions	87 x 110 x 188 mm (3.4 x 4.3 x 7.4 in)
Weight	approx. 700 g (1.55 lb)
Temperature Range	Operation: +10 - 40°C (+50 - 104°F) Storage: 0 - 60°C (+32 - 140°F)
Rel. Humidity	Up to 85% at 35°C (95°F), non-condensing

[1]Standard deviation

spectro2guide Training

BYK-Gardner offers you more than just an instrument. We train you on color, gloss and fluorescence theory, how to operate spectro2guide and data analysis with smart-chart. Therefore, the instrument comes with a 1-day training course including:

Color, Gloss and Fluorescence Theory
- Building blocks of color and gloss: illuminant, observer, object
- Color differences with interpretation
- Fluorescent measurement and data analysis

spectro2guide Operation
- Configuration of instrument
- Handling and operation
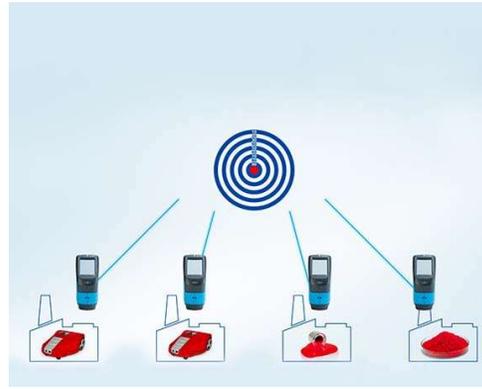
Excellent inter-instrument agreement for digital standards.

smart-lab Color Training

- Standard management
  - Define color families with color equation and limits
  - Exchange digital standards among the global supply chain
- Data analysis using standard reports:
  - Scatter graph for Pass/Fail color analysis
  - Metamerism graph to judge color match under different illuminants
  - Fluorescence Slider for detailed fluorescence analysis by each excitation range
- Dynamic print layout and export of data to Excel®

smart-process Color Training

- Standard management
  - Define color families with color equation and limits
  - Exchange digital standards among the global supply chain
- Set-up "Organizer to define a standardized measurement procedure
- Measurement of several products & saving in database
- Data analysis using standard reports:
  - Test Report of a single test series
  - Scorecard as executive summary
  - Trend Report of a specific color/product over selected time range with comparison function
- Dynamic print layout and export of data to Excel®