SPECTRO-GUIDE

Total Appearance Control - color and gloss in one unit

Reference: ASTM D 2244, E 308, E 1164, D 523, D 2457; DIN 5033, 5036, 6174, 67530; ISO 7724, 2813, 7668

The overall appearance of a product is influenced by color and gloss. A sample of the same color but higher gloss level is visually perceived darker and more saturated than a low gloss sample. In order to get a uniform appearance, both attributes need to be controlled. The spectro-guide is unique as it measures both attributes simultaneously. Thus, the cause of a mismatch can be clearly defined in any situation.

- Color (45/0 or sphere) and 60° gloss are displayed at the same time
- In compliance with international specifications - DIN approval for gloss measurement
- Tolerances for color and gloss allow quick pass/fail decisions in production.

Easy to use and handle

The spectro-guide makes quality control simple and secure - even for color beginners. Thanks to the intuitive pull-down menu and the four cursor button operation quality control has never been easier.

- Light weight and small size - weighs only 500 g
- Ergonomic design - can easily measure difficult to access areas
- Designated buttons for standard and sample readings
- Customization of the display to your needs

### Highly repeatable on textured surfaces

The key criterion for a 45/0 instrument is a circumferential illumination. Spectro-guide 45/0 is the only instrument with a 100% circumferential illumination by using a unique, patented measurement principle. A white coated hemisphere acts as a mixing chamber and guarantees completely uniform illumination. Thus, any influence of measurement direction is eliminated and excellent repeatability even on highly textured surfaces is guaranteed.
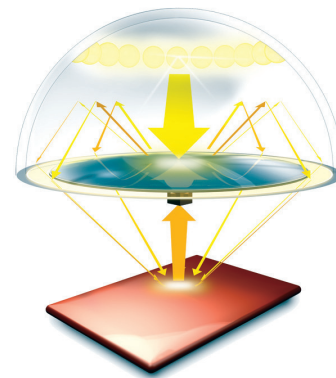
Measurement principle spectro-guide 45/0: True circumferential illumination for best repeatability on textured samples.

Always precise color values

With the new spectro-guide you can measure any colors: dark - brilliant - steep reflectance curves.
The 10 nm spectral resolution not only ensures highly precise color results, but also an excellent agreement with competitive color instruments - even bench-top units.
Additionally, a patented illumination control provides temperature independent results - also in extreme conditions.
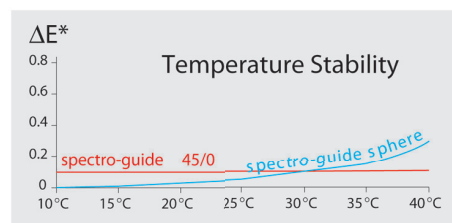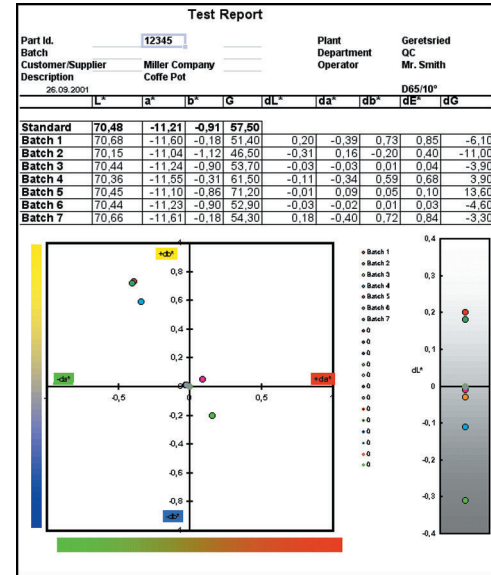
COLOR / GLOSS

Always ready to use

Economical and reliable operation of a color instrument is often taken as given. Spectro-guide guarantees superior accuracy for many years and low maintenance efforts.

- Long lasting standard AA batteries - up to 8,000 readings per set
- 10 year warranty on the light source - no lamp changes needed
- Rugged and compact design
- Stable, long-term calibration - needed only every three months

Professional Documentation with easy-link

ISO 9000 requires documentation of color data. Easy-link, included with the spectro-guide, offers all of the necessary tools:

- Easy and direct data transfer from the instrument to Excel®
- Predefined QC-report templates (Lab-plot, trend graphs, etc.) are included
- All relevant quality data can be easily summarized in one report: Color - Gloss - Film Thickness
- Easy management of your standards

Test Report

	L*	a*	b*	G	dL*	da*	db*	dE*	dG
Standard	70,48	-11,21	-0,91	57,50					
Batch 1	70,68	-11,60	-0,18	51,40	0,20	-0,39	0,73	0,85	-6,10
Batch 2	70,15	-11,04	-1,12	46,50	-0,31	0,16	-0,20	0,40	-11,00
Batch 3	70,44	-11,24	-0,90	53,70	-0,03	-0,03	0,01	0,04	-3,90
Batch 4	70,36	-11,55	-0,31	61,50	-0,11	-0,34	0,59	0,68	3,90
Batch 5	70,45	-11,10	-0,86	71,20	-0,01	0,09	0,05	0,10	13,60
Batch 6	70,44	-11,23	-0,90	52,90	-0,03	-0,02	0,01	0,03	-4,60
Batch 7	70,66	-11,61	-0,18	54,30	0,18	-0,40	0,72	0,84	-3,30

Complete color QC-report

Easy management of your standards

Manual entry of standards

If you have to match colors and the physical sample is no longer available, you can easily enter the spectral data in Excel®. The standards can then be transferred to spectro-guide - all within a second.

Back-up your standard data

For safety reason, it is recommended to store your complete data base of standards on the PC. They can be downloaded with the individual tolerances to spectro-guide - whenever needed.

Establish your tolerances

Use the auto tolerancing feature to easily set up your production window. Measure at least 20 visually accepted production trials, transfer the readings to Excel® and have the tolerances automatically calculated for you - saving time and headaches.

NEW spectro-guide S - Increased accuracy for 60° gloss in the low gloss range (0-10 GU)

Besides the tougher accuracy, the S-type units have the same features as the regular instruments and come with the same accessories. Thus, no aditional demo unit is necessary for your presentations. There are different certificates for the S-units which document the tighter specifications. In addition, there will be special checking standards offered with a low gloss tile for the 60° geometry.

- Color and 60° gloss in one unit
- Highly repeatable results, even on textured surfaces- independent of measuring direction
- 10 nm resolution for precise readings on brilliant and dark colors
- Stable, long-term calibration
- Long lasting AA batteries
- 10 year warranty on the light source
- Easy to use, even for color beginners
- easy-link for direct transfer to Excel®

Gloss	S-type	Regular	Color	ΔE*
Repeatability	±0.1	±0.2	0.01	1σ
Reproducibility	±0.5	±1.0	0.2	1σ
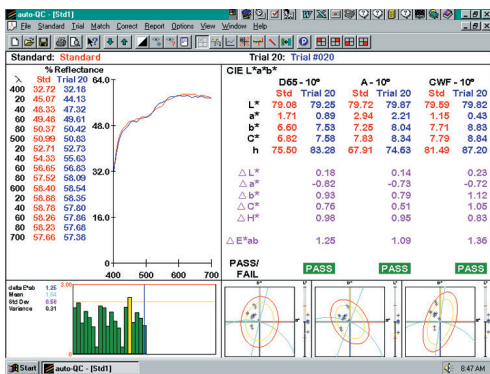
auto-QC Software (optional-NOT included)

For advanced color analysis, the spectro-guide family can also be interfaced to the universal Windows® based color control software auto-QC:

- User definable screen layouts and print-outs
- Easy creation of macros to simplify routine procedures
- Manual and automatic tolerance setting
- Powerful, built-in Access® database for any search routine
- Exports data to common Windows® spreadsheet programs

Technical Specifications

Description	Color Geometry	Gloss Geometry	Color Aperture	Gloss Aperture
spectro-guide sphere gloss	d/8 spin	60°	11 mm	5 x 10 mm
spectro-guide 45/0 gloss	45/0	60°	11 mm	5 x 10 mm

Color

Spectral Range: 400 - 700 nm
Spectral Interval: 10 nm
Repeatability: 0.01 ΔE^*, 1 σ[1]
Reproducibility: 0.2 ΔE^*, 1 σ[2]
Color System: CIELab/Ch; Lab(h); XYZ, Yxy
Color Differences: ΔE^*; $\Delta E(h)$; ΔE_{FMC2}; ΔE_{94}; ΔE_{CMC}; ΔE_{gg}; E_{2000}
Indices: YIE313; ID1925; WIE313;CIE; Berger; Color strength, Opacity, Metamerism
Illuminants: A; C; D50; D55; D65; D75; F2; F6; F7; F8; F10, F11; UL30
Observer: 2°, 10°
[1] 10 consecutive measurements on white tile
[2] average on 12 BCRA II tiles

Gloss

Gloss Range: 0 - 180 GU[3]
Repeatability: 0.2 GU[3]
Reproducibility: 1.0 GU[3]
Memory: 200 Standards, 999 Samples
Language: English, German, French, Italian, Spanish, Japanese
Power Supply: 4 AA alkaline, NiCd/MH batt
Operating Temp: 50°F - 110°F (10°C - 42°C)
Humidity: <85% relative humidity, non-condensing/95°F (35°C)
Dimensions: 3.2x7x3.7in (8x18x9.5cm)
Weight approx.: 1.1 lbs. (0.5 kg)

[3] Gloss Unit

Standards

Color	Gloss
ASTM	**ASTM**
D 2244	D 523
E 308	D 2457
E 1164	
DIN	**DIN**
5033	67530
5036	
6174	
ISO	**EN ISO**
7724	7668
	DIN EN ISO 2813

The spectro-guide comes complete with: black calibration standard, white calibration standard with certificate, green checking reference, high gloss standard, sample area locator, software easy-link, interface cable, 4X AA batteries, hand strap, carrying case, operating instructions, color theory folder.

As the spectro-guide also performs a gloss reading, it is additionally recommended to periodically use a medium gloss checking standard to control the gloss readings.

Protective Stand

Oakland Instrument Corp., www.oaklandinstruments.com, (952) 835-4935