

micro-gloss 45

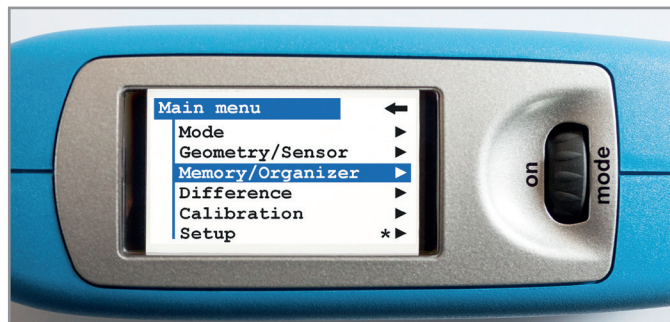
Intelligent gloss measurement with smart communication

The micro-gloss has been the unsurpassed industry standard in gloss measurement for many years. It is the only glossmeter combining the highest accuracy, ease-of-use and multiple functionality – essential for today's testing requirements. In addition, the smart-chart software is the ideal tool for smart communication with professional documentation and efficient data analysis.



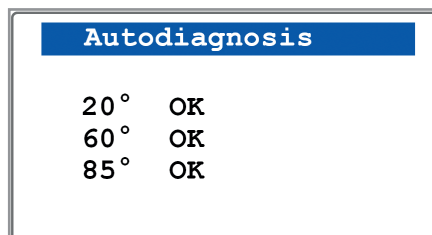
Brilliant color display: easy to read – easy to use

Ergonomics and easy handling were the main focus for the design. The micro-gloss is not too large and not too small – it feels just right in your hand. The scroll wheel operation and new color display with an easy-to-navigate menu make gloss measurement easier than ever before.



Auto diagnosis: Standard OK – Calibration OK

Accurate readings require reliable calibration. The gloss meter and calibration holder make a perfect couple - the calibration standard is always protected in the holder of the micro-gloss. The intelligent auto diagnosis of the gloss meter is a unique feature which guarantees long-term calibration stability and tells you when to calibrate. It even checks whether the standard is clean. Operator friendly. Safe.



45° Gloss Measurement for Plastic Films

Plastic films and solid plastics, both opaque and transparent, are often measured at 45° angle for intermediate and low gloss levels. For films that transmit light, a matte black backing such as "Black scrub panel" cat. no 5015, must be placed behind the sample. Erroneous measurements will occur without a suitable backing.



Standard test methods ask for readings on at least three portions of each specimen to get an indication of gloss uniformity. The statistic mode of the micro-gloss will show the average and range or standard deviation as a measure of sample uniformity.

45° Gloss Measurement for Ceramics

Ceramics, porcelain enamels and other finishes use the 45° geometry and often provide a comparison of their resistance to acid, alkali, or other environmental factors by measurement of gloss loss. In order to evaluate change of gloss it is essential to take multiple readings over the entire sample surface and evaluate the average to ensure representative result.



$$\text{Gloss loss, \%} = 100 \times (G_{\text{initial}} - G_{\text{final}}) / G_{\text{initial}}$$

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Smart functions for any task

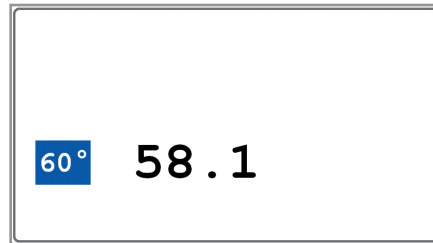
Different tasks require different tools. The easy to turn scroll wheel of the glossmeter quickly shows you all needed functions - even without a PC:

The **Basic mode** is your tool to quickly check the gloss of a few samples.

The **Statistic mode** not only shows the average, but all statistical data needed to judge whether the measured difference is significant or how uniform the surface gloss is on your sample. You define what you want to see: mean, standard deviation, range, min/max, ...

The **Difference mode** allows you to define a reference with Pass/Fail limits and will compare all of the following measurements to the selected reference. The Pass/Fail indication is colorfully shown on the high resolution display – ideal for production control.

The **Continuous mode** is the most efficient way to quickly check the uniformity of a large sample surface. You define the measurement interval and are now ready to continuously measure the gloss by sliding the micro-gloss over the surface. When finished, the average with min - max range are displayed.



FILM A4	SAMPLE 07		
	n = 02/03		
	value	\bar{x}	range
45°	61.7	60.5	1.2

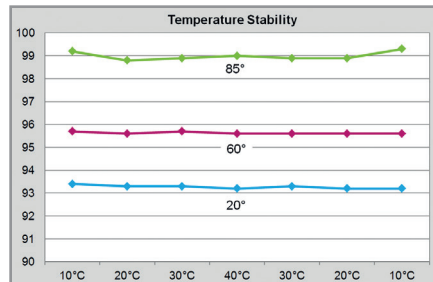
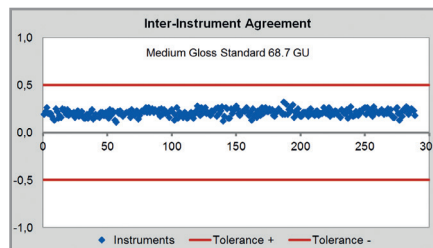
Technical Performance: Unsurpassed in the industry

No matter how harsh your production conditions are or how tight your limits may be, accuracy and reliability of the micro-gloss are proven by thousands of users to guarantee always the highest quality.

The long-term stable LED light source of the glossmeter provides not only highly repeatable results for many years, but also will never burn out. A 10 year warranty on the lamp life is guaranteed.

Due to advanced temperature control, the micro-gloss assures the highest stability of the gloss readings - if you are in the lab or move to a "hot spot" on the line.

Our patented calibration procedure during the production of the glossmeters enables an excellent inter-instrument agreement. No matter how far your customer may be away, if he is one of the thousands of micro-gloss users, he will read the same values as you.



smart-chart - data analysis software

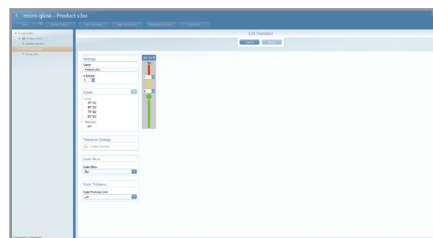
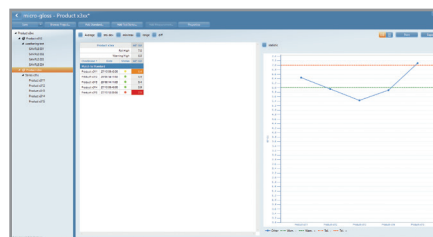
Whatever the task, smart-chart will do it for you. From simple data tables of single test series to trend reports over time - anything is possible.

smart-lab for ONLINE measurement and memory transfer:

- Data analysis with tables and line graphs
- Data is organized in projects with easy to share xml files

smart-process for a STANDARDIZED QC:

- Sampling process with predefined measurement procedures in Organizers
- Comprehensive data analysis with easy filtering and statistical analysis



Standards

ASTM C346
ASTM D2457



Catalog Number	4567
Short Description	micro-gloss 45°
Geometry	45°
Application	Ceramic, Plastic, Film
Measuring Area	9 x 13 mm
Measuring Area	0.35 x 0.5 in
Measuring Range	0 - 180 GU
Repeatability Gloss 0-20	0.2 GU
Repeatability Gloss 20-100	0.2 GU
Repeatability Gloss 100-2000	0.20%
Reproducibility Gloss 0-20	0.5 GU
Reproducibility Gloss 20-100	0.5 GU
Reproducibility Gloss 100-2000	0.50%
Spectral sensitivity	CIE standard observer for illuminant CIE-C
Measuring time	0.5 seconds / geometry
Memory	999 readings with date and time
Languages	DE, EN, ES, FR, IT, PL, PT, RU, TR, ZH
Interface	USB
Power supply	one 1.5V AA Alkaline Battery, or via USB-port
Battery Capacity	4,000 readings
Dimensions: L x W x H	15.5 x 4.8 x 7.3 cm
Dimensions: L x W x H	6.1 x 1.9 x 2.9 in
Weight	0.4 kg
Weight	0.9 lb
Operating temperature	15 - 40 °C
Operating temperature	60 - 104 °F
Relative humidity	up to 85 %, non-condensing

Delivery Content

Glossmeter, Calibration holder, USB-cable micro-gloss (4405), Software with 2 licenses for download: smart-lab Gloss (4866) or smart-process Gloss (4867), Battery, Traceable certificate, Manual, Carrying case

System Requirements

Operating system: Windows® 10 1607 or later
Hardware: i5 2.5 GHz; i9 recommended, or equivalent (x86 & x64 architecture only)
Memory: 16 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

Catalog Number	Short Description	Delivery Content
4455	Calibration Holder 45°	
4458	Checking Standard micro-gloss 45°	Checking standards in aluminum guide High gloss standard Semi gloss standard for 45°
4866	smart-lab Gloss	2 licensees for download www.byk.com
4867	smart-process Gloss	Software with 2 licenses for Download
4405	USB-Cable micro-gloss	