

Spectrophotometer

Brightness & Color meter

Code: N.306.xx

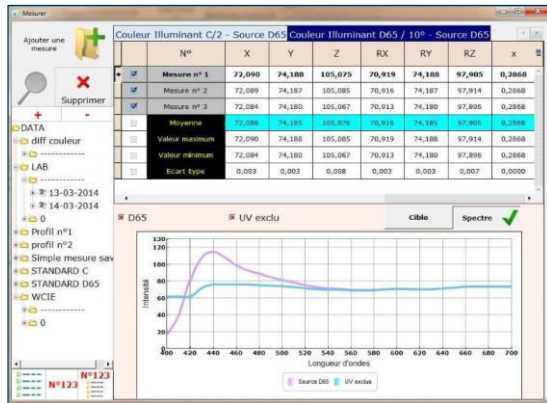
Usage

To determine the optical properties such as brightness, opacity, fluorescence, color, color differences and whiteness of tissue, paper, cardboard or similar materials.

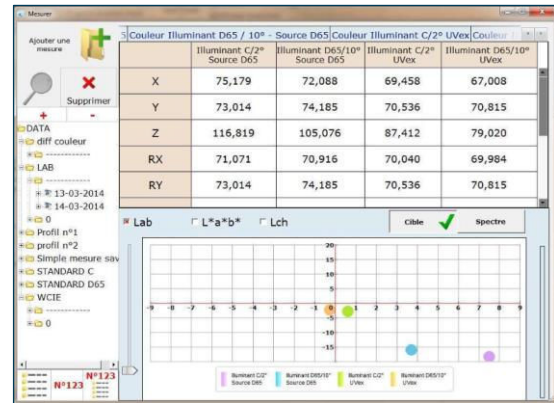
Applicable standards

- ISO 2469 – 2471
- ISO 3688
- ISO 11475 / 11476
- ISO 12625-7
- ISO 12626-15
- TAPPI T519, T525, T527, T534
- DIN 53145 – 53147
- DIN 54500
- etc.

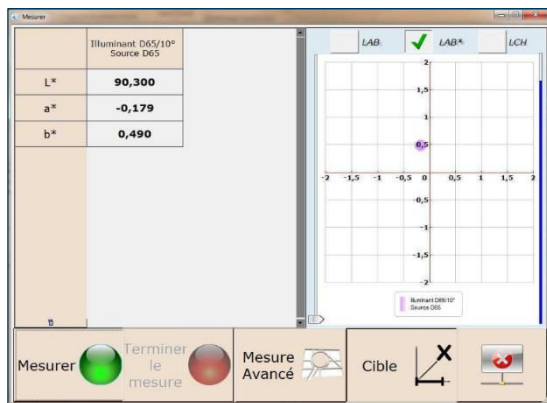




Measure



Metamerism



Measure LAB



Spectrophotometer with PC

Device description

The spectrophotometer is a modern, user friendly and multi-option color and whiteness measuring device, ideal for use in the paper and packaging industry. The device contains key figures, tolerance calculations and diagrams for the light sources D65, C, UV. The measured values can be saved directly on the computer or exported via the network and USB port. The specially developed software can be controlled intuitively and is based on Windows. Control and calibration of the device: Light source filtered according D65, C and UV, administration of the sample and standard library.

Connections

- Electricity: 110 - 230 V, 50/60 Hz
- Data transfer: USB port, RS 232

Delivery content

- device with pre-installed software
- one set of calibration standards
- one ceramic plate
- one black pot
- user manual
- CE label

Models

Code	Article
N.306.TS	Spectrophotometer with integrated touchscreen
N.306.PC	Spectrophotometer with PC tablet (latest version)

Specifications

Illumination / Viewing system	Reflectance: d:0° (diffuse illumination, 0-degree viewing) conforms to ISO 2469, JIS P8148, DIN 53145-1 /-2
Light-receiving element	Silicon photodiode array (dual 40 elements)
Spectral separation device	Diffraction grating
Wavelength range	360 nm to 740 nm
Wavelength pitch	10 nm
Reflectance range	0 to 200%; resolution: 0,01%
Light source	3 x pulsed xenon lamps
Measurement time	Approx. 1.5 seconds (for measurements of fluorescent colors, at 9600 bps)
Minimum interval between measurements	Approx. 4 seconds for reflectance measuring Approx. 5 seconds for fluorescent color measuring
Measurement / Illumination area	Ø30 mm/Ø34 mm
Inter instrument agreement	Within ΔE^*_{ab} at 0.2
Repeatability	Spectral reflectance: Standard deviation within 0.1% Colorimetric values: Standard deviation within ΔE^*_{ab} 0,2 (condition; white calibration plate measured 30 times at 10-second intervals)
Temperature drift	Spectral reflectance: within $\pm 0,10\%$ / °C Color difference: within ΔE^*_{ab} 0,05 / °C
UV Cut filter	400 nm cut-off and 420 nm cut-off
Operating temperature	13 – 33°C, relative humidity 80% or less (at 30°C) with no condensation
Standard for calibration	ISO Level IR 3
Color / Color difference scales / Tolerances	color, color differences, absolute and delta-values, ΔE for CIE XYZ, xyz, L*, a*, b*, C*, h*, u*, v*, CIE, opacity, fluorescence etc.
General features	Statistic std. deviation/mean avg., descriptors, configurable data grids
Measurements	Average measurements, remote measurements, automated calibration timeout, manual data input
Database functions	Store, retrieve, rename, delete standards and batches, organize samples in a folder structure, unique sample identifiers
Export / Import	Export to ASCII file, export result data to EXCEL