

L&W Gloss Tester

Lorentzen & Wettre Products | Paper testing



L&W Gloss Tester measures gloss, which is an important property in the production of paper of high print quality. A paper with high gloss gives good print quality and contrast, but too high paper gloss can reduce readability because of reflection. To achieve a good compromise the paper's gloss must be optimized.

ABB's gloss tester is designed to stringent requirements for usability and accuracy. Therefore, all check and calibration standards are installed in a single extensible compartment in the instrument's measurement table. This protects the standards when they are not in use, and allows easy access when checks and calibration need to be performed.

L&W Gloss Tester has an automatic calibration function to set a zero reference point and a full scale. No knobs need to be turned to adjust levels. The instrument's stability can be monitored easily with the help of check standards. The calibration and check are documented on the printer.

Customizing values

Gloss testers from different manufacturers often have slight differences in linearity. L&W Gloss Tester therefore has built-in functions for adjusting the linearity to comply with other instruments. The zero reference point and amplification can be set so that the measurement results agree with those of an existing instrument.

Adjustable start functions

The measurement begins automatically when a sample is placed in the measuring gap. Alternatively, the measurement can be started with a foot switch or by pressing a button.

Inspection opening for sample adjustments

The sample is lifted against the measurement aperture by a measuring plate. This plate has a suction ring that holds the sample flat. The suction plate is moveable so that it is always in the same position relative to the measurement system. This guarantees good repeatability of measurements. Each measurement takes approximately four seconds. The sample's position can be assessed easily via the inspection hatch. If required, the position can be accurately adjusted. In that way, selected spots on the sample can be measured precisely. L&W Gloss Tester has a LED lamp with very long life time.

Benefits

- Suction plate with firm holding of sample, keeping the sample flat during measurement
- Inspection hatch with light source for measuring a selected spot
- Sturdy design for data confidence, the optical system has standardized sample backing
- Check and calibration standards are easy to access meaning no specific operator skills needed (the standards are also well protected from damage and contamination)
- Immediate report of instrument check, calibration and measurements
- Automatic start of measurement with sample sensor
- LED lamp for long life time

DEFINITION

Specular gloss is the ratio between the luminous flux which is reflected from the measurement surface in a measurement aperture at a given, fixed angle of reflection and the luminous flux that is reflected by a calibration standard under the same conditions. The gloss is expressed as percentage or as gloss units.

The test piece is illuminated from a fixed, known angle of incidence and the reflected luminous flux is measured at the same angle of incidence. The measurement geometries differ between the different standardized methods. The measurement results are, therefore, not directly comparable.

Technical specifications – L&W Gloss Tester, code 224

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| Inclusive | Calibration standard, working standard and black cavity. PC software for setup and calibration. Accessory case. Foot switch Cable for connection to an external PC. Printer rolls. |
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| Measurement range | 0–100 Gloss Units (GU) alt. 0–100 % |
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Instrument

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| Display and printer | 5 digits, up to 4 significant digits reported |
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| Measuring time | 4 s |
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| Light source | LED lamp |
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Results

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| Measurement values | - Gloss for selected measurement geometry |
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| Statistics | - mean value - standard deviation - coefficient of variation - maximum and minimum values of the series |
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Connections

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| Data | RS232C - connectable to L&W Autoline Data Acquisition Workstation |
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| Printer | Parallel |
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Installation requirements

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| Power | 70 W |
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| Instrument air | >0.4 MPa (60 psi) |
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| Air consumption | 3.6 m ³ /h 1.8 ft ³ /min NTP (during 4 s per measurement only) |
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| Dimensions | 0.5 × 0.4 × 0.4 m 20 × 16 × 16 in |
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| Volume | 0.4 m ³ 15 ft ³ |
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| Net weight | 23 kg 51 lb |
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| Gross weight | 43 kg 95 lb |
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Measurement geometry

TAPPI 75°, TAPPI 20°

Applicable standards

PAPTAC E.3P, ISO 8254-1, ISO 8254-3, TAPPI T 480, TAPPI T 653