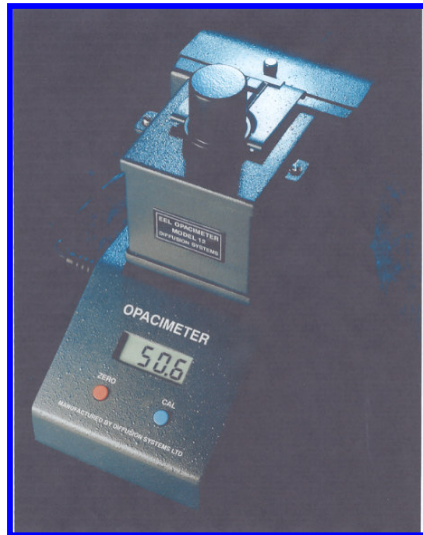




Applications

- coatings
- cosmetics
- dyes
- film
- inks
- paint
- paper
- plastic
- packaging materials
- sheet
- varnishes
- waxes



EEL 12M OPACIMETER

designed in cooperation with the Printing, Packaging and Allied Trades Research Association

Features

- compact
- easy to use
- microprocessor-controlled
- measures both white and coloured film
- measures whiteness

Description

The EEL M12M Opacimeter is a convenient, self-contained instrument for measuring the percentage opacity and whiteness of printing ink paper and plastics in a research and production environment. A microprocessor inside the unit compares the diffuse reflectance of the sample against black and white references to display opacity

Operation

Calibration consists in placing a sample, with reference standard, over the sample port of the integrating cube and setting the unit to read 100.0. The sample only is then measured against the black cavity, light reflected from the sample being integrated within the cube. The new reading obtained is percentage opacity, which is colour independent. Brightness as diffuse reflectance is measured similarly by utilising a white reference standard

Range of measurements

Opacity (of paper, plastic, or similar material) is the ratio of the diffuse reflectance measured when backed by a black material such as the black cap of the EEL 12M Opacimeter, and by a white material such as a white reference tile. *Specification standards for opacity:* BS3900; BS4432; BS6616; BS7664; BS ISO2471; ISO2471; ISO3905; ISO3906; ISO6504; ASTM D589; DIN 53146; TAPPI519; TAPPI425

Hiding power (of a paint or coating) is the ratio of its diffuse reflectance with a black and a white backing. The paint can be applied to a card with black and white areas, or the coating can be on a polyester foil (film) and the measurements are made with a black backing (the black cap of the EEL 12M can be used), and with a white ceramic tile. *Specification standards for hiding power:* BS3900; ISO2814; ISO6504

Contrast ratio is the ratio of diffuse reflectance from two areas of similar colour. The EEL 12M can be used to make these two measurements. *Specification standards for contrast ratio:* BS3900; ISO2814; ISO3905; ISO3906; ISO6504

Transmitted opacity is the total transmittance (diffuse and regular) i.e. the total transmitted flux to the incident flux; this can be measured with the EEL 57M Hazemeter.

Specifications

Optical geometry:	0 degree diffuse degree, Illuminant A or C tungsten source, detector CIE photopic
Sample port:	25mm diameter
Patch size:	19mm diameter
Repeatability:	0.1 unit
Reproduceability:	0.2 unit
Warm up time:	1 minute
Zero drift:	None
Full scale drift:	Less than 0.1 in 5 minutes
Operating temperature:	5-50 degrees centigrade
Traceability:	National Standards NPL
Electronics:	Autocalibrate microprocessor
Power:	110-230 VAC 50/60 HZ
Option:	RS 232 serial port

Height:	11cm x 18cm x 21cm
Weight:	2.5kg
Shipping weight gross:	4kg
Shipping size:	0.3 x 0.3 x 0.4m

Applicable Test Methods: Opacity; Hiding Power; Contrast Ratio; Brightness

- BS 3900; BS4432; BS6616; BS7664; BS ISO2471;
- ISO 2471; ISO 2814; ISO 3905; ISO 3906; ISO 6504;
- ASTM D589;
- DIN 53146;
- TAPPI 519; TAPPI 425;
- ASTM I850; MTD 213.2 (AUSTRALIA AND NEW ZEALAND);
- PIFA VOLUNTARY STANDARD 3/79 B77344;

Warranty: 3 years unconditional warranty

After sales service: Contact Customer Support Services at the address below for after sales service, technical support, and spares.

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