RHOPOINT
NOVO·SHADE DUO+

The Novo-Shade Duo+ Reflectometer

- Opacity
- Shade
- Cleanliness

Manufactured by Rhopoint Instruments in the United Kingdom 🇬🇧

A versatile solution for reflectometry measurement

WATCH VIDEO

The Novo-Shade Duo+ is a portable 45/0° reflectometer that can be used to assess either the shade of a surface (a simple indication of colour based on lightness/darkness) or calculate the opacity of a coating, plastic film or paper sample. By measuring using 45/0°, the Novo-Shade Duo+ measures the colour of a surface and not the specular reflectance (gloss).

The Novo-Shade Duo+ reflectometer has 3 distinct modes of operation. In shade mode, applications include the measurement of colour, fading in textiles and plastics, shade of paints, inks and coatings, chalking of paint, efficiency of detergents and bleaching agents, as well as the whiteness of recycled paper. Whilst in opacity mode, applications include the measurement of the hiding power of paints, inks and coatings, transparency of plastic films and opacity of paper. In cleanliness mode, applications include measurement of oxidisation of metal surfaces or the cleanliness of a given surface.

Its in-built automatic calibration ensures accurate measurements every time the instrument is used.

Shade - Measure the shade of a surface on a greyscale

Opacity - Measure substrate opacity/hiding power

**Cleanliness** - Measure substrate cleanliness

FREE EXTENDED WARRANTY

Shade mode

To measure the shade of a coating simply place the instrument on the surface of the sample to be measured and press the centre button. The value is displayed on the screen. The shade measurement is based on a greyscale value where black has a value of zero and white is the value of the calibration standard included with the instrument.
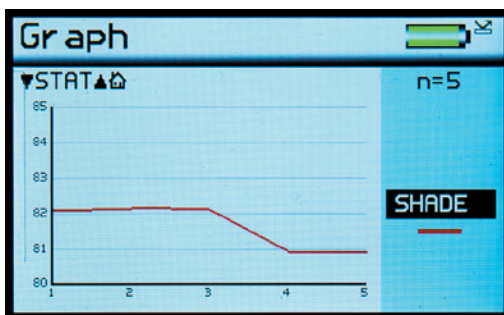
Fast measurement
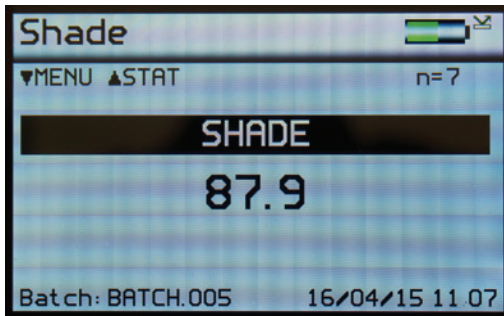
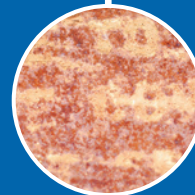On-board statistics
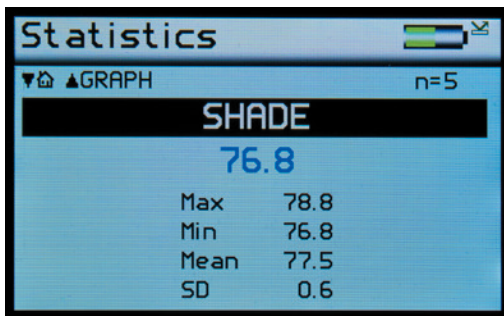
Trend analysis graph

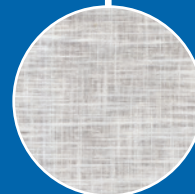Single button push to make measurements

Applications:

Shade of paints, inks and coatings

Chalking of paint

Efficiency of detergents and bleaching agents

Whiteness of recycled paper

Opacity mode

To measure the opacity of a coating, it must be drawn down on a Leneta-type opacity chart at the required film weight and allowed to fully dry. To measure the opacity of plastic film, paper, textile or any other semi-opaque material, the sample to be measured should be placed over a black and white test bed, a Leneta-type chart is also suggested.

Fast measurement of all parameters
Automatic calculation of opacity
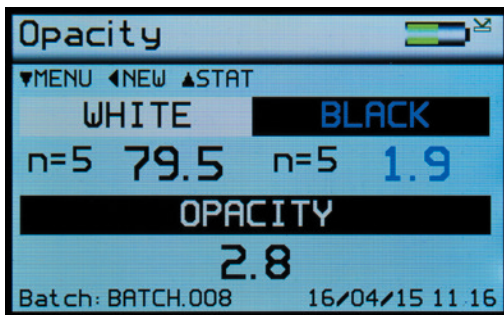
On-board statistics
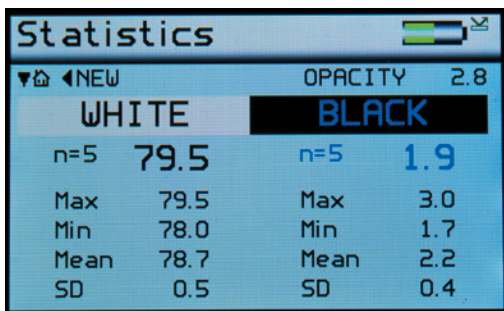
Measurements are made over a white substrate and then over a black substrate. Opacity is automatically calculated and displayed.

Applications:

Hiding power of paints, inks and coatings
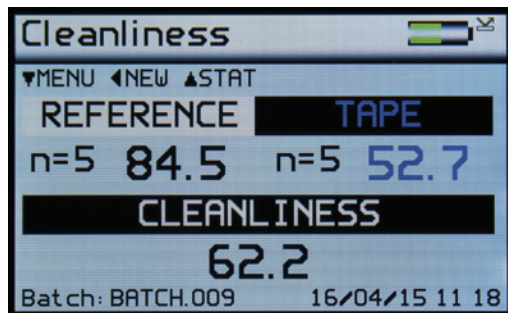
Transparency of plastic film

Opacity of paper

Cleanliness mode

To measure cleanliness, clear tape is used to collect debris from the surface under test. This is then stuck to any suitable white substrate along with a sample of tape that is perfectly clean.

Fast measurement

On-board statistics
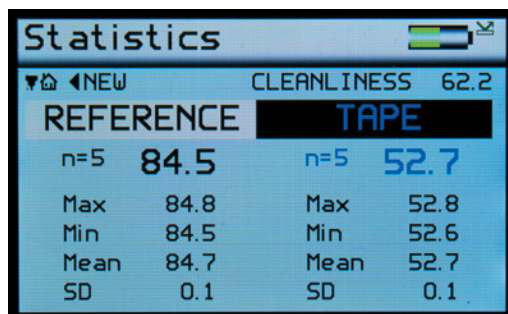
Clear tape is pressed on the measurement surface, torn away and stuck onto white paper - For reference a clean piece of tape is also stuck on the same white paper.

Measurements are made of the reference material and then of the tape, cleanliness is calculated automatically.

Applications:

Cleanliness and Oxidisation on Metal Surfaces

Features

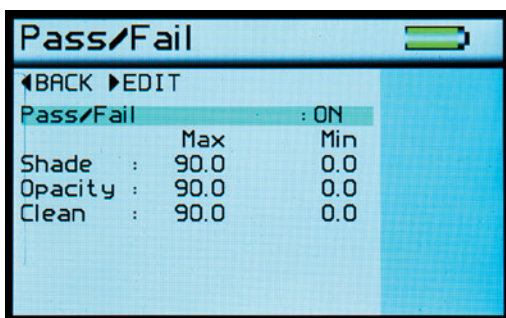**The instrument is controlled by pressing the relevant touch sensitive buttons. Functionality is dependent on which operating mode the instrument is in.**

Pass/Fail

The Pass/Fail setup screen is used to enable/disable on-screen pass/fail indication and set min/max tolerancing for easy identification and reporting of non-confomances.

Software-free Rapid Data Transfer

USB connection to a computer instantly recognises the device as a drive location which facilitates the quick transfer of files using Windows File Explorer or similar software.

Power

20,000+ readings per charge. The instrument is rechargeable via USB/PC or mains.

Easy Batching (Shade Mode Only)

User definable batch names and batch sizes for quicker and more efficient reporting.

Operation

- Full colour easy to read screen
- Adjustable brightness
- 5 button touch sensitive interface

Construction

- All aluminium construction - enclosure, optics, standard holder
- Integrated calibration holder with in-position detector for error-free calibration

Benefits of using Novo-Shade Duo+

- Continuous-read feature for quickly checking large surfaces (shade measurement only)
- Measurements displayed instantly on screen
- Statistical analysis gives an instant indication of batch quality

- Date and time stamped results
- Automatic calibration with tile validation
- Compatible with all major international standards

Specifications

Standard	Details
Statistical Analysis	Max, Min, Mean, SD
Graphical Analysis	On board trend analysis
Power	Rechargeable lithium-ion battery 17+ hours operation 20,000+ readings per charge
Recharge Time	Mains charger: 4hrs
Standards	ISO 2814, 6504, BS 3900-D4, D7, ASTM E97, E1347, D4214 ASTM D2805, D589
Memory	8 MB = 999 readings User definable alphanumeric batching
Data Transfer	Bluetooth USB connection (no software installation required)
Performance	Resolution 0.1 Repeatability 0.2% Reproducibility 0.5% Operating temperature 15°C - 40°C (60°F - 104°F) Humidity up to 85% (non-condensing)

Dimensions & Weights	Details
Measurement Spot Size	15mm x 10mm elipse
Unit Dimensions	65mm (H) x 140mm (W) x 50mm (D)
Unit Weight	790g
Packed Weight	1.75kg
Packed Dimensions:	180mm (H) x 330mm (W) x 280mm (D)
Commodity Code:	9027 5000
Order Code	A4000-010

Measurement Units	Details
Shade Mode	0 = Black – no reflectance 100 = Brilliant white – full reflectance
Opacity Mode	0 = Completely transparent 100 = Fully opaque
Cleanliness Mode	0 = No change 100 = Maximum change

Free extended 2 year warranty: Requires registration at **www.rhopointinstruments.com/instrument-registration** within 28 days of purchase. Without registration, 1 year standard warranty applies.

Free light source warranty: Guaranteed for the life of the instrument.

Calibration & Services: Fast and economical service via our global network of accredited calibration and service centres. Please visit **www.rhopointinstruments.com/support** for detailed information.

Included accessories

- Certified calibration tile with certificate
- USB data cable
- Wrist strap
- Novo-Gloss Multi Gauge software
- Instructional videos
- USB data stick containing:
  - Instruction manual
  - Bluetooth data app
  - Example Excel spreadsheets

TRY BEFORE YOU BUY

We offer two options for you to try out the Novo-Shade Duo+ before buying

1 **Online demonstration:** Online presentation of the Novo-Shade Duo+ with your samples measured LIVE on Zoom, Microsoft Teams or Skype. Includes a consultation with an application specialist.

2 **Factory sample testing:** Send in samples of your material for testing and receive a comprehensive test report.

Arrange a demo

Ready to receive a quote?   **Click here**

Rhopoint Instruments

Rhopoint House, Enviro 21 Park, Queensway Avenue South, St Leonards on Sea, TN38 9AG, United Kingdom

T: +44 (0)1424 739 622
E: info@rhopointinstruments.com
www.rhopointinstruments.com

Rhopoint Americas

1000 John R Road, Suite 209, Troy, Michigan, 48083

T: 1.248.850.7171
E: sales@rhopointamericas.com
www.rhopointamericas.com

Rhopoint Instruments GmbH

An der Kanzel 2
D-97253 Gaukönigshofen, Deutschland

T: +49 9337 9004799
E: info@rhopointinstruments.de
www.rhopointinstruments.de

bsi
ISO 9001
Quality
Management
Systems
CERTIFIED

FS 695373