

# Lovibond® Colour Measurement Tintometer® Group



## TR 515 Spectrophotometer



- Identify colour variations, enabling corrective measures to be taken and ensure products meet required standards
- Reduce waste, rework, and the need for multiple iterations, leading to cost savings
- Ensure the colour of your product is consistent to meet high customer expectations
- Perfect for a variety of different industries including paints, coatings, plastics, textiles, printing, food, cosmetics, and creams

Part Number: 403032

How can the TR 515 help you?

### Consistency

Colour is often a critical factor in determining the quality of a product. Manufacturers need to ensure that the colours of their products are consistent to meet customers' expectations. By using the TR 515, you can ensure your products meet these standards.

### Accuracy

The TR 515 can identify any variations in colour, enabling manufacturers to take corrective measures and ensure that the products meet the required standards.

### Efficiency

Manufacturing processes often involve the use of colourants or dyes. By measuring the colour of these materials, manufacturers can ensure that they are using the correct amount of colourant and avoid waste. The TR 515 can help reduce costs and improve efficiency in the manufacturing process.

### Cost-effectiveness

Accurate colour measurement helps in reducing waste, rework, and the need for multiple iterations, leading to cost savings for the manufacturers.

### Branding

A product's colour is often a key part of its branding and marketing. Customers may associate a particular colour with a brand, and manufacturers need to ensure that their products are consistent. By using the TR 515, you can ensure products match the desired brand colour and help maintain a strong brand image.

### Compliance

Some industries, such as food and pharmaceuticals, have strict regulations regarding the colour of their products. By using the TR 515,

you can ensure that products comply with these regulations and avoid potential legal issues.

## Industry

Chemical Industry | Food and Beverage Industry | Industries Others | Oil and Gas | Pharmaceutical Industry

## Application

Coatings | Household Products | Plastics | Textiles

## TR 515 Spectrophotometer

The TR 515 offers accurate and reliable colour management that fits in the palm of your hand. The 45°/0° geometry and ergonomic design makes the unit perfect for the whole manufacturing process from use on the plant floor, production line, warehouse, or laboratory.

## Technical Data

<b>Applicable Standard</b>	ASTM 313 ASTM D1925 ASTM D7843 ASTM E308
<b>Colour Type</b>	Opaque
<b>Optical Geometry</b>	45°/0° (45° ring-shaped illumination, vertical viewing)
<b>Integrating Sphere Size</b>	48 mm
<b>Spectrophotometric Mode</b>	Concave Grating
<b>Sensor</b>	256 image Element Double Array CMOS Image Sensor
<b>Repeatability</b>	MAV/SCI: $\Delta E^* \leq 0.03$
<b>Display</b>	3.5 inch TFT colour LCD, Capacitive Touch Screen
<b>Interfaces</b>	USB Bluetooth 4.0
<b>Spectral Interval</b>	10 nm
<b>Measurement Mode</b>	Single Measurement, Average Measurement
<b>External Storage</b>	1000 Standards : 30000 Samples
<b>Location Method</b>	Camera View Finder Locating
<b>Measured Reflectance Range</b>	0 - 200 %
<b>Measurement Time</b>	1.5 s
<b>Measuring Aperture</b>	MAV: $\varnothing$ 8mm / $\varnothing$ 10 mm ; SAV: $\varnothing$ 4 mm / $\varnothing$ 5 mm
<b>Colour Difference Formular</b>	$\Delta E^*ab$ , $\Delta E^*uv$ , $\Delta E^*94$ , $\Delta E^*cmc$ (2:1), $\Delta E^*cmc$ (1:1), $\Delta E^*00v$ , $\Delta E$ (Hunter)
<b>Battery Life Time</b>	5000 measurements with 8 hours
<b>Other Colorimetric Index</b>	WI (ASTM E313, CIE/ISO, AATCC, Hunter) YI (ASTM D1925, ASTM 313) MI (Metamerism Index) Staining Fastness, Colour Fastness, Colour Strength, Opacity
<b>Displayed Data</b>	Spectrogram/Values, Samples Chromaticity Values, Colour Difference Values/Graph, PASS/FAIL Result, Colour Offset
<b>Inter Instrument Agreement</b>	Within $\Delta E^*ab$ 0.15 (Average for 12 BCRA Series II colour tiles)
<b>Spectral Range</b>	400 - 700 nm
<b>Bandwidth</b>	10 nm
<b>Illuminants</b>	CIE Illuminant D65 CIE Illuminant A CIE Illuminant C CIE Illuminant D50 CIE Illuminant D55 CIE Illuminant D75 CIE Illuminant F1 CIE Illuminant F2 CIE Illuminant F3 CIE Illuminant F4 CIE Illuminant F5 CIE Illuminant F6 CIE Illuminant F7 CIE Illuminant F8 CIE Illuminant F9 CIE Illuminant F10 CIE Illuminant F11 CIE Illuminant F12
<b>Portability</b>	Portable

<b>Illuminant Life Span</b>	5 years, more than 3 million measurements
<b>Observer</b>	2° / 10°
<b>Environmental Conditions</b>	0 - 40 °C, 0 - 85 % Relative Humidity (non condensing), Altitude < 2000 m
<b>Stock Conditions</b>	-20 - 50 °C, 0 - 85 % Relative Humidity (non condensing)
<b>Languages User Interface</b>	English, Chinese
<b>Dimensions</b>	184 x 105 x 77 mm

## Delivery Scope

- TR 515, 45°/0°, Spectrophotometer
- OnShade PC Software
- White and Black Calibration Board
- Dust Cover
- USB Cable
- External DC Power Supply
- USB Stick with User Manuals in English and Chinese
- Sturdy Carrying Case

---

**Tintometer GmbH**

Lovibond® Water Testing  
Schleefstraße 8-12  
44287 Dortmund  
Tel.: +49 (0)231/94510-0  
sales@lovibond.com  
www.lovibond.com  
Germany

**The Tintometer Limited**

Lovibond House  
Sun Rise Way  
Amesbury, SP4 7GR  
Tel.: +44 (0)1980 664800  
Fax: +44 (0)1980 625412  
sales@lovibond.uk  
www.lovibond.com  
UK

**Tintometer China**

9F, SOHO II C.  
No.9 Guanghualu,  
Chaoyang District,  
Beijing, 100020  
Customer Care China Tel.: 4009021628  
Tel.: +86 10 85251111 Ext. 330  
Fax: +86 10 85251001  
chinaoffice@tintometer.com  
www.lovibond.com  
China

**Tintometer South East Asia**

Unit B-3-12, BBT One Boulevard,  
Lebuh Nilam 2, Bandar Bukit Tinggi,  
Klang, 41200, Selangor D.E  
Tel.: +60 (0)3 3325 2285/6  
Fax: +60 (0)3 3325 2287  
lovibond.asia@tintometer.com  
www.lovibond.com  
Malaysia

**Tintometer Brazil**

Caixa Postal: 271  
CEP: 13201-970  
Jundiaí – SP  
Tel.: +55 (11) 3230-6410  
sales@lovibond.us  
www.lovibond.com.br  
Brazil

**Tintometer Inc.**

6456 Parkland Drive  
Sarasota, FL 34243  
Tel: 941.756.6410  
Fax: 941.727.9654  
sales@lovibond.us  
www.lovibond.us  
USA

**Tintometer India Pvt. Ltd.**

Door No: 7-2-C-14, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Floor  
Sanathnagar Industrial Estate,  
Hyderabad, 500018  
Telangana  
Tel: +91 (0) 40 23883300  
Toll Free: 1 800 599 3891/ 3892  
indiaoffice@lovibond.in  
www.lovibondwater.in  
India

**Tintometer Spain**

Postbox: 24047  
08080 Barcelona  
Tel.: +34 661 606 770  
sales@tintometer.es  
www.lovibond.com  
Spain