

elcometer®  
inspection equipment



**Elcometer 408**  
Triple Angle Gloss & DOI Meter

## Elcometer 408

## Triple Angle Gloss & DOI Meter

The Elcometer 408 provides the very latest in gloss measurement technology, providing accurate gloss, haze and distinctiveness of image (DOI) analysis in a single reading.

**STANDARDS:**  
ASTM D523, ASTM D2457,  
ASTM E430, ASTM D5767,  
DIN 67530, DIN EN ISO 2813,  
JIS Z 8741, ISO 7668

Press button once to measure all parameters; gloss, haze, DOI, Rspec & RIQ

Display and download Goniophotometric profiles

USB or Bluetooth® data output



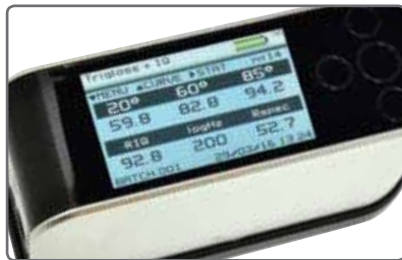
On screen statistics with trend & measurement graphs

Stores up to 999 readings with full goniophotometric profiles in user definable batches

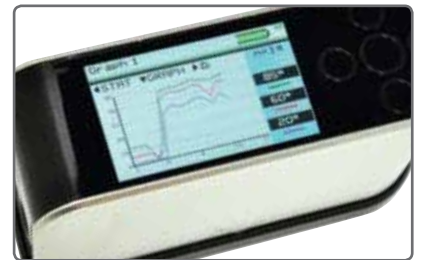
Integrated calibration tile for fully automatic error-free calibration



Easy to read large colour screen with adjustable brightness



Fast and simultaneous measurement of all parameters



On screen graph highlights trends in the measured batch

## Gloss & DOI Meter Definitions

## Elcometer 408

### Distinctiveness of Image (DOI)

Distinctiveness of Image measures the sharpness of a reflected image in a coating surface. Similar coatings may have identical gloss values but visually the quality may be very different. A visually poor coating may have a highly textured dimpled appearance known as “orange peel”. When a reflected object is viewed in such a coating the image becomes fuzzy and distorted.

A surface that has a perfect undistorted image returns a value of 100. As the value decreases the image becomes more distorted.

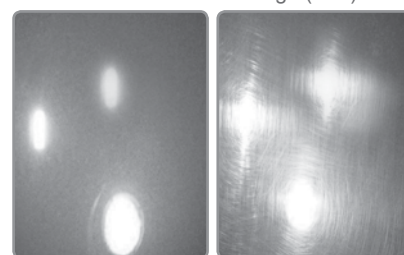


Distinctiveness of Image (DOI)

### Haze (HU) & Log Haze (HU<sub>Log</sub>)

High quality gloss surfaces have a clear, deep, brilliant finish. Haze causes a drop in reflected contrast and causes halos to appear around light sources, these unwanted effects dramatically reduce visual quality.

Undetectable by traditional gloss meters the Elcometer 408 measures Haze Units in accordance with ASTM E430 at the same time as simultaneously measuring gloss and DOI.



Haze (HU) & Haze Log (HU<sub>Log</sub>)

### Peak Reflectance (R<sub>spec</sub>)

R<sub>spec</sub> is the peak reflectance measured over a very narrow angle in the specular direction and is very sensitive to any surface texture, waviness or rippling. When R<sub>spec</sub> is equal to the gloss the surface is smooth. R<sub>spec</sub> drops as the surface texture increases.

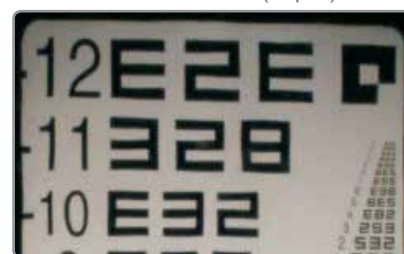


Peak Reflectance (R<sub>spec</sub>)

### Reflected Image Quality (RIQ)

Reflected Image Quality provides greater sensitivity when evaluating highly reflective coatings and the specular / diffuse element of lower gloss materials.

A surface that exhibits a perfect undistorted image returns a value of 100, as the values decrease higher surface texture is present and the image sharpness reduced.



Reflected Image Quality (RIQ)

### Goniophotometric Profile

The gloss, haze, DOI and R<sub>spec</sub> values produced by the Elcometer 408 can be used to assess the visual quality of any surface. The full range of goniophotometric curves can be downloaded to a computer for detailed understanding of specular reflectance. The Elcometer 408 can also be used to quantify an orange peel finish or a substandard coating with a low DOI.



Goniophotometric Profile

## Elcometer 408

## Triple Angle Gloss & DOI Meter

### Accurate

- Fast and simultaneous measurement of gloss, haze, DOI, Rspec and RIQ
- Each instrument is supplied with a Calibration Certificate

### Simple

- Bright, easy to read LCD screen displays the gloss value, statistics & graphs
- Display measurements are user definable
- Each set of readings is time & date stamped

### Flexible

- Triple (20/60/85°) angle for maximum accuracy and resolution in all gloss applications
- Bluetooth® or USB download to ElcoMaster® data management software for instant analysis

### Durable

- Robust aluminium construction ensures optical stability
- 17hrs+ continuous operation or 20,000+ readings
- Compact and portable instrument with integrated tile holder

### Efficient

- Easy menu-driven user interface in multiple languages
- Clear, illuminated display showing up to five parameters on screen
- On board trend analysis with gloss and image quality (IQ) values

### Powerful

- On board memory for 999 readings with full goniophotometric profiles
- Internal battery is fully rechargeable in 2.5 hours



Paperless Quality Assurance  
with ElcoMaster®

## Triple Angle Gloss &amp; DOI Meter

Elcometer 408

## Product Features

Easy to use menu structure	English, Spanish, French, Italian, German, Chinese
Bright colour screen; <i>with permanent back light</i>	Adjustable brightness, 6 button touch sensitive interface
User definable measurement display	■
Scratch & solvent resistant display	■
USB power supply	■
Calibration certificate	■
Data output	■
USB; <i>to PC</i>	■
Bluetooth®: <i>to PC or Android™ mobile device</i> #	■
On screen statistics	$\bar{x}$ , $\sigma$ , maximum & minimum value
USB cable	■
Date and time stamp	■
Gauge memory; <i>number of readings</i>	up to 999 readings & curves
Repeat measurement mode	user definable: 2, 5 or 10 seconds
Delete last reading	■
Standard & fixed batch sizes	■
Trend, gloss & image graphs	■
Measurement modes	Gloss (GU): 20°, 60°, 85°; Haze (HU) & Haze Log (HU Log); Distinctiveness of Image (DOI); Peak Reflectance (Rspec) & Reflected Image Quality (RIQ)

## Technical Specification

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Part Number	Description	Certificate		
J408--268	Elcometer 408 Triple Angle Gloss & DOI Meter (20, 60 & 85°)	●		
Power Supply	Rechargeable Battery Pack			
Recharge Time	USB 4.5 hours			
	Gloss	Haze	DOI	RIQ
Measurement Range	20°: 0-2,000GU; 60°: 0-1,000GU; 85°: 0-199GU	0-2,000GU	0-100 DOI	0-100 RIQ
Resolution	0.1GU	0.1HU	0.1	0.1
Repeatability	±0.2GU	±0.5HU	±0.2	±0.2
Reproduceability	±0.5GU	±1.5HU	±0.5	±0.5
Peak Specular Reflectance at 20°	± 0.09905°			
Dimensions (H x W x D)	65 x 140 x 50mm (2.5 x 5.5 x 1.9")	Weight	790g (1lb 12oz)	
Packing List	Elcometer 408 Gloss & DOI Meter, high gloss calibration tile with calibration certificate, gloss tile cleaning cloth, transit case, USB cable, Novo-Gloss Multi Gauge Software, mini cd (instruction manual, Bluetooth® data app, Example Excel spreadsheets), instructional videos & operating instructions.			

## Accessories

T40823532	High Gloss Calibration Tile with Calibration Certificate
T40823533	Mirror Gloss Calibration Tile with Calibration Certificate
T99923535	Gloss Tile Cleaning Cloth
T99921325	USB Cable

● Certificate supplied as standard.

# Live readings only



**elcometer**<sup>®</sup>  
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