

## Elcometer 408

### STANDARDS:

AS/NZS 1580.602.2, ASTM C 584, ASTM D 1455, ASTM D 2457, ASTM D 4039, ASTM D 523, ASTM D 5767, DIN 67530, ECCA T2, EN 12373-11, EN 13523-2, ISO 2813, ISO 7668, JIS K 5600-4-7, JIS Z 8741, TAPPI T 653

## **Gloss & DOI Meters**

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





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 Meters**

### Elcometer 408

# Accurate

- Fast and simultaneous measurement of gloss, haze, DOI, Rspec, RIQ and Goniophotometric profiles
- Each instrument is supplied with a Calibration Certificate traceable to ISO 17025, UKAS & BAM

# 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**

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

# Durable

- Robust aluminium construction ensures optical stablility
- 17hrs+ continuous operation or 20,000+ readings
- Compact & 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







Elcometer 408 Gloss & DOI Meter

V1:1.11.12



# **Elcometer 408**

# **Gloss & DOI Meter**

Easy to use menu structure	English, Spanish, French, Italian, German, Chinese		
Bright colour screen; with permanent back light	Adjustable brightness, 6 button touch sensitive interface		
User definable measurement display			
Scratch & solvent resistant display	•		
Mains or USB power supply	•		
Calibration certificate: ISO, UKAS & BAM traceable	•		
Data output	•		
USB; to PC	•		
Bluetooth®: to PC or Android™ mobile device	•		
On screen statistics	χ, σ, maximum & minimum value		
ElcoMaster™ 2.0 software & USB cable			
Date and time stamp	•		
Gauge memory; number of readings	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) & Goniophotometric Profile

Technical Specification						C
Part Number	Description				(	Certificate
J40826	Elcometer 408 Dual Angle Gloss & DOI Meter (20 & 60 Degree)					
J408268	Elcometer 408 Triple Angle Gloss & DOI Meter (20, 60 & 85 Degree)					
Power Supply	Rechargeable Lithuim Ion gives 17+ hours / 20,000 readings					
Recharge Time	USB 4.5 hours, Mains Charger 2.5 hours					
	Gloss	Haze	DOI	RIQ	Goniophot	ometric
Measurement Range	20°: 0-2,000GU; 60°: 0-1,000GU; 85°: 0-150GU	0-2,000GU	0-100 DOI	0-100 RIQ	-	
Resolution	0.1GU	0.1HU	0.1		0.1GU	
Repeatability	0.2GU	0.2HU	0.2		0.2GU	
Reproduceability Peak Specular Reflectance at 20°	0.5GU -± 0.09375°	0.5HU	0.5		0.5GU	
Dimensions (H x W x D)	65 x 140 x 50mm	(2.5 x 5.5 x 1.9")	Weight	790g (1lb 12	2oz)	
Packing List	Elcometer 408 Gloss & DOI Meter, ISO 17025 high gloss calibration tile with calibration certificate, gloss tile cleaning cloth, mains charger (UK, EU & US), transit case, USB cable, ElcoMaster™ 2.0 software and operating instructions.					

Accessories	
T40823532	ISO 17025 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.

<sup>\*</sup> Elcometer 408 Triple Angle Gloss & DOI Meter only Elcometer 408 Gloss & DOI Meter

# elcometer

## **Gloss & DOI Meter Definitions**

#### Gloss (GU)

A simple measurement proportional to the amount of light reflected from a surface determining how shiny a surface appears.

Surface texture can reduce appearance quality, without affecting gloss. These two test panels have identical readings when measured with a standard glossmeter.

#### Haze (HU) & Log Haze (HULog)

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 E410 at the same time as simultaneously measuring gloss and DOI.

## Peak Reflectance (Rspec)

Rspec 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 Rspec is equal to the gloss the surface is smooth. Rspec drops as the surface texture increases.

## **Distinctness of Image (DOI)**

Distinctness 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 undisorted images returns a value of 100. As the value decreases the image becomes more distorted.

### 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.

#### **Goniophotometric Profile**

The gloss, haze, DOI and Rspec 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 not only measures gloss but can also be used to quantify the orange peel finish or a substandard coating with a low DOI.

# Elcometer 408



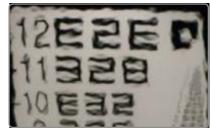
Gloss (GU)



Haze (HU) & Haze Log (HULog)



Peak Reflectance (Rspec)



Distinctiveness of Image (DOI)



Reflected Image Quality (RIQ)



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