

# elcometer® 500 Concrete Coating Thickness Gauge

Can be used in accordance with:  
ASTM D6132, SSPC PA9 & ISO 2808 Method 10



The **Elcometer 500 Concrete Coating Thickness Gauge** accurately measures the **thickness of coatings on concrete** and other similar substrates (eg plasterboard, drywall, concrete block, brick) - **non destructively**.

## Features

- **Fast and accurate**, the Elcometer 500 Coating Thickness Gauge takes repeatable and reproducible dry film thickness measurements of coatings on concrete up to 9mm thick (Epoxy coatings, thickness on other materials may vary) OR other similar substrates – without damaging the coating.
- **Easy to read, user definable display** with automatic screen brightness
- **Store up to 100,000 readings** in up to 1,000 alpha-numeric batches
- **Rugged, intelligent** ergonomic probes, designed for continuous use and **field replaceable probe tips** you can inspect all day, everyday
- **Measure up to 10mm**
  - C1 150 - 2,500µm & C2 750 - 10,000µm
- Measure more than **60 readings per minute** in standard mode and **over 140 readings per minute in scan mode** - allows users to inspect more coatings in less time.
- **Rugged, dust & waterproof design** equivalent to **IP54**, ideal for almost all environments
- The **built in signal strength indicator** on the Elcometer 500 Coatings on Concrete Gauge prevents false or incorrect readings, as the gauge only displays the coating thickness measurement if the signal strength indicator goes green.
- **Incredibly easy to use**, can be used in accordance with **ASTM D6132, SSPC PA9 & ISO 2808 Method 10**
- USB & Bluetooth® data output to PC and Android™ or iOS mobile devices
- **Compatible with ElcoMaster® software** and **ElcoMaster® Mobile App**, individual coating thickness measurements can be transferred via USB or Bluetooth® to PC or a mobile device for analysis and instant report generation.



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## Key Features of the Elcometer 500 Coating Thickness Gauge:



### Fast

Measuring over 60 readings per minute in standard mode and over 140 readings per minute in scan mode, the Elcometer 500 coating thickness gauge can significantly reduce your inspection times.

### Reliable

The Elcometer 500 will only display the coating thickness reading if the signal strength indicator turns green, preventing false or incorrect readings.

If the coating thickness is outside the measurement range, the Elcometer 500 informs you on the display.



### Intelligent

The Elcometer 500 measurement probes are supplied with user replaceable probe tips. If the tip is damaged or wears during use you can replace it and carry on.

The gauge even informs you when you need to change the probe tip, maximising inspection time.

### Easy to Use

There is no need to set up gates, range values or know the thickness of the coating, simply select the coating material from the gauge library and start measuring.

### Ergonomic

The Elcometer 500 gauge and intelligent probes have all been ergonomically designed for continuous use. No force is required to take a reading.

### Rugged

Robust, ergonomic and sealed against dirt and water, equivalent to a rating of IP54, the Elcometer 500 has been designed to work in harsh environments, making it the ideal gauge for the laboratory or the job site.



## The Different Modes of Calibration:

The Elcometer 500's user calibration adjustment procedures are fully traceable to National and International Standards.



### 1. Coating Material Library

The Elcometer 500's advanced measurement technology means that you no longer need to know how thick the coating should be before taking a reading, and you don't need to set any measurement gates. Simply switch on the gauge, select the coating from the calibration library, and take a reading – it is that easy.



### 2. Material Thickness Calibration

To obtain the greatest measurement accuracy, the Elcometer 500 can be calibrated using a known thickness of the coating to be measured. If a sample of known thickness is not available, the Elcometer 500 Coating Calibration Mould (CCM) can be used to create a coating of known thickness which is traceable to both national and international standards.



### 3. Sound Velocity Calibration

The Elcometer 500 can be calibrated by entering the speed of sound from the Product Datasheet available from the coating manufacturer.

Once the gauge has been calibrated, the Elcometer 500 has a measurement accuracy of  $\pm 2\%$ .

**Link to You Tube video:**

<https://youtu.be/8A3JVbpMQdc>



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## Create Instant Reports with ElcoMaster®



It's not just taking measurements but what you do with the collected data that matters.

As inspectors can spend up to 30% of their working week producing reports, ElcoMaster® saves time and money by producing professional bespoke reports in seconds - even when out on site.

ElcoMaster® is a fast, easy to use software solution for all your data management and quality assurance needs, preparing professional inspection reports at the click of a button. Data transferred to ElcoMaster® includes:

- Date and time stamped readings
- Statistical values
- Limit values
- Readings above high limit
- Run charts & histograms
- Batch and gauge information
- Calibration information

ElcoMaster® Mobile App users can;

- Store live readings directly on to a mobile device and save them into batches
- View graphs in real-time whilst carrying out the inspection
- Add notes to individual batch reading
- Add photographs of the test surface to each individual batch reading at the click of a button
- Plot individual readings on to a location map, photograph or diagram via the mobile device's internal GPS
- Inspection data can be transferred from mobile to PC for further analysis and reporting
- Generate instant .pdf<sup>2</sup> report for submission



1 Android devices

2 Available on iOS devices

### Connect

Connect gauge via Bluetooth® to see live readings directly on the phone and save them into batches.

### Review

Review average, maximum and minimum readings instantly.

### Manage & Print

Store all data; surface cleanliness, surface profile, climate or manual reports in easy to manage folders.

### Photos & Notes

Add photos, notes and comments.

### Image Collection

Use measurement location points on images to indicate the position for the next reading.<sup>1</sup>

### Combine

Combine different inspection parameters (such as surface profile, climate, dry film thickness) together with images, notes and other project specific information into reports.

### Collaborate

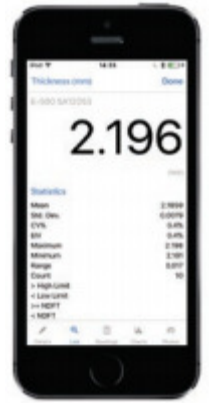
Share inspection data securely via the Cloud and collaborate on projects using the instant messaging feature in ElcoMaster®.

### Send

Email inspection data from a mobile device to a PC for further analysis and reporting or transfer data via the Cloud.

### Consistency

Stored material calibrations can be transferred to ElcoMaster® These can be sent to any Elcometer 500 gauge, anywhere in the world.



## Product Features

	■ Standard Model B	□ Optional Model T
Fast, accurate reading rate; 60+ readings per minute	■	■
Repeatable & reproducible measurements	■	■
Easy to use menu structure; in 30+ languages	■	■
Tough, impact, waterproof & dust resistant; equivalent to IP54	■	■
Bright colour screen; with automatic rotating display (0°, 90°, 180° & 270°)	■	■
Scratch & solvent resistant display; 2.4" (6cm) TFT	■	■
USB power supply; via PC	■	■
Test certificate & 2 year gauge warranty*	■	■
Ambient light sensor; with adjustable auto brightness	■	■
Automatic probe recognition	■	■
Gauge software updates <sup>1</sup> ; via ElcoMaster® software	■	■
Data output	■	■
USB; to computer	■	■
Bluetooth®; to computer, Android™ & iOS devices		■
Measurement units; µm, mm, mils, inch	■	■
Signal strength indicator	■	
User selectable reading resolution; Low & High reading resolution	■	■
Display modes; user selectable		■
Readings	■	■
Readings & differential; reading and the offset from a set nominal difference		■
Bar graph		■
Live reading trend graph; in batch mode		■
Run chart; trend graph of last 20 readings		■
User selectable statistics;	■	■
Number of readings; $\bar{n}$ , Mean (average); $\bar{x}$ , Standard deviation; $\sigma$ ,	■	■
Highest reading; $H_i$ , Lowest reading; $L_o$ , Coefficient of variation; CV%		
Normal dry film thickness; NDFT, High & low limits; definable audible & visual alarms,		■
Number of readings above high limit; Number of readings below low limit; Range; I		
Multiple calibration methods with on-screen instructions; in 30+ languages	■	■
Material selection; preset choice of materials or create own user defined materials	■	■
Velocity entry; direct entry of a material's sound-velocity	■	■
1 Point; using a coating sample of known thickness	■	■
Calibration lock; with optional PIN code unlock	■	■
Gauge memory; number of readings		100,000
Number of batches; with unique batch calibrations		1,000
Alpha-numeric batch names; user definable on the gauge		■
Fixed batch size mode; with batch linking		■
Batch review graph		■
Delete last reading	■	■
Limits; 40 user definable audible & visual pass/fail warnings		■
Live reading mode; transfer of individual readings to external device	USB	USB & Bluetooth®
Reading save function	■	■
Date and time stamp		■
Scan mode		■
ElcoMaster® software & USB cable	□	■
Protective case	■	■
Plastic transit case	□	■

\* The Elcometer 500 is supplied with a one year warranty against manufacturing defects. Gauge warranty can be extended to two years

<sup>1</sup> Internet connection required

## Standards

- **ASTM D6132**
- **SSPC PA9 & ISO 2808 Method 10**



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## Packing List

### Elcometer 500 Coating Thickness Gauge Model B & T

- Elcometer 500 Coating Thickness Gauge
- 4ml Bottle of Probe Tip Oil
- 120ml Bottle of Ultrasonic Couplant
- 2 x AA Batteries
- Protective Case
- Transit Case (Model T)
- Wrist Harness
- 3 x Screen Protector
- ElcoMaster<sup>®</sup> Software (Model T)
- USB Cable (Model T)
- Test Certificate

### Elcometer 500 Coatings on Concrete Inspection Kit

- Elcometer 500 Model T Coating Thickness Gauge
- C1 & C2 coating thickness probes
- C1 & C2 probe measurement foils: 1, 2, 3 & 8mm
- Elcometer 456 Model B Ferrous Integral Gauge
- Elcometer 456 calibration foils: 0.5 & 1.5mm
- 2 x coating calibration moulds
- 120ml bottle of ultrasonic couplant
- 4ml bottle of probe tip oil
- transit case
- ElcoMaster<sup>®</sup> software & USB cable

## Technical Specification

Part Number	Description	Certificate
A500C-B	Elcometer 500 Coating Thickness Gauge Model B	•
A500C-T	Elcometer 500 Coating Thickness Gauge Model T	•
A500-KIT1	Elcometer 500 Coatings on Concrete Inspection Kit	•
Operating Temperature	-10 to 50°C	
Power Supply	2 x AA batteries (rechargeable batteries can be used)	
Battery Life	Alkaline: Approximately 15 hours Lithium: Approximately 28 hours	
Gauge weight	161g including batteries, without transducer	
Gauge Dimensions	141 x 73 x 37mm without transducer	

## Probe Range

### Scale C1



### T500-C1 Elcometer 500 Scale C1 Probe

Range<sup>1</sup>: 150 - 2,500µm Accuracy<sup>2</sup>: ±2% or ±10µm  
Resolution: Low: 10µm, 0.01mm High: 1µm, 0.001mm

### Certificate

- 

### Scale C2



### T500-C2 Elcometer 500 Scale C2 Probe

Range<sup>1</sup>: 750 - 9,000µm Accuracy<sup>2</sup>: ±2% or ±10µm  
Resolution: Low: 10µm, 0.01mm High: 1µm, 0.001mm

### Certificate

- 

1 Epoxy coatings, thickness on other materials may vary

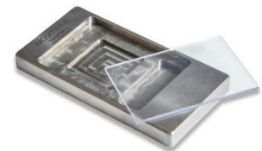
2 Whichever is greater

- Test certificate supplied as standard

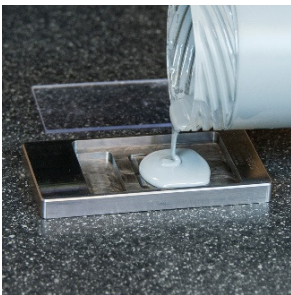


## Accessories

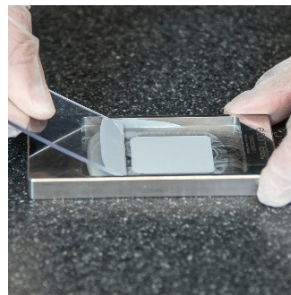
Part Number	Description
T50027602-1	C1 Replacement Probe Tip; Pack of 2
T50027602-2	C2 Replacement Probe Tip; Pack of 2
T50027604	Probe Tip Oil; 4ml Bottle
T92015701	Ultrasonic Couplant; 120ml
T92024034-7	Ultrasonic Couplant; 300ml
T92024034-8	Ultrasonic Couplant; 500ml
T92024034-3	Ultrasonic Couplant; 3.8l
T92024034-9	Ultrasonic Couplant (High Temp); 60ml; for use in high temperature environments up to 510°C
T99022255-13	C1 Foil Set: 1 & 2mm
T99022255-13C	C1 Foil Set - Certified: 1 & 2mm
T99022255-14	C2 Foil Set: 3 & 8mm
T99022255-14C	C2 Foil Set - Certified: 3 & 8mm
T50027567-1	Elcometer 500 Coating Calibration Mould (CCM)



### How to create a coating sample using the Elcometer 500 Coating Calibration Mould (CCM)



1. Place the coating calibration mould on a flat surface and completely fill the sample chamber with test coating.



2. Using the plastic scraper, scrape over the coating allowing the excess to fall into the overflow chamber. Allow the coating to dry.



3. When fully cured, calibrate a ferrous coating thickness gauge on the side of the CCM then measure and record the dry thickness at the centre of the coating.



4. Measure the same point using the Elcometer 500. Enter the dry film thickness measurement and save it in the Elcometer 500's Coating Materials list.

By using the Elcometer Coating Calibration Mould the Elcometer 500 calibration is traceable to national and international standards. The user defined coatings can be transferred into the Material Coatings Library within ElcoMaster® for use, at any time, on any Elcometer 500 gauge. Select the coatings from your list and transfer them to any Elcometer 500 gauge.

More information on how to use the Elcometer Coating Calibration Mould with the Elcometer 500 Coating Thickness Gauge can be found on the Accessories page – see also under Accessories for diagrams.

#### Link to You Tube video:

<https://youtu.be/OQBQBGz41Es>



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