

Elcometer 211

Coating Thickness Gauge

Operating Instructions



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A copy of this Instruction Manual is available for download on our Website via www.elcometer.com.

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Thank you for your purchase of the Elcometer 211 Coating Thickness Gauge. Welcome to Elcometer.

Elcometer are world leaders in the design, manufacture and supply of inspection equipment for coatings and concrete. Our products cover all aspects of coating inspection, from development through application to post application inspection.

The Elcometer 211 Coating Thickness Gauge is a world beating product. With the purchase of this product you now have access to the worldwide service and support network of Elcometer. For more information visit our website at www.elcometer.com

1 INTRODUCTION

The Elcometer 211 Coating Thickness Gauge measures non-magnetic coatings, including paint, hard chrome, electroplating, galvanising, powder coating, plastic, epoxy and rubber applied to a ferromagnetic base.

To maximise the benefits of your new Elcometer 211 Coating Thickness Gauge please take some time to read these Operating Instructions. Do not hesitate to contact Elcometer or your Elcometer supplier if you have any questions.

1.1 STANDARDS

Your Elcometer 211 Coating Thickness Gauge can be used in accordance with the following National and International Standards: AS 3894.3-A, AS 2331.1.3, AS/NZS 1580.108.1, ASTM B 499, ASTM G 12, ISO 2808-7A, *supersedes BS 3900-C5-6A, BS 5411-11, DIN50981, ISO 2808-6A*, ASTM G 12, ISO 2178 *supersedes BS 5411-11*, NF T30-124, SSPC-PA2.

1.2 WHAT THE BOX CONTAINS

- Elcometer 211 Coating Thickness Gauge
- Calibration Foils
- Wrist Harness
- Carry Case
- Operating Instructions

Your Elcometer 211 Coating Thickness Gauge may be packed in a cardboard and foam package. Please ensure that this packaging is disposed of in an environmentally sensitive manner. Consult your local Environmental Authority for further guidance.

2 MEASURING

1. Place the end and middle of gauge on test surface. Rotate the thumbwheel forward until the magnet makes contact with the surface and the indication on the scale is above the estimated coating thickness, otherwise to maximum.
2. Rotate the thumbwheel back until magnet is released from surface, the indicator pops up and click is heard.
3. Stop turning immediately. Repeat to confirm the reading.
4. Lift the gauge and read the thickness value on the scale in line with the pointer.



3 ROUGH SURFACE CALIBRATION

1. Using the foils supplied select a value closest to the coating thickness being measured.
2. Place magnet on the foil and uncoated rough substrate and take a reading. Note the distance between the foil value and the reading indicated against the pointer.
3. The scale needs to be adjusted by an amount equal to the linear distance between the actual scale readings and the foil value on the scale. To do this, hold the thumbwheel and turn the scale wheel clockwise. For very rough surfaces it may be necessary to repeat this operation until the correct average reading is obtained.
4. Check the reading and make any small adjustment: If the reading is high, move scale clockwise; if reading is low move scale anti-clockwise.

RECALIBRATION OF GAUGE FOR MEASURING ON A SMOOTH SURFACE

1. Rotate the thumbwheel clockwise until the scale pointer aligns with zero.
2. Hold the bar at the end of the scale with thumb nail and using the other thumb rotate the thumbwheel until the red and black lines are together.
3. Check accuracy of instrument using coated standards.

ASTM METHOD OF MEASUREMENT ON ROUGH SURFACES

Developed by the Steel Structures Painting Council (SSPC) and adopted by the ASTM in the USA, this method is commonly used for a number of on-site applications. With the instrument calibrated on a smooth surface, readings should be taken on the uncoated rough surface and then on the coated rough surface. The coating thickness is the average of the readings on the coated rough surface minus the average of the uncoated readings.

4 CARE OF INSTRUMENT

Elcometer products are designed to give many years reliable service under normal operating and storage conditions.

1. Always ensure that the magnet is free from all magnetic or dirt particles as these will affect performance of the instrument.
2. How to clean - using adhesive tape, eg 'Scotch Tape' or 'Sellotape' wipe around the magnet, making sure all particles are removed. Then clean with a soft cloth to remove any tacky residue.
3. Keep clear of strong magnetic fields, and store the gauge in its case when not in use.
4. The 211 is factory calibrated to NIST coated standards. The factory calibration is indicated by the alignment of two lines at the zero end of the scale, the black line on the scale and the red line on the wheel.
5. Plastic foils are provided for checking performance on different substrate types and finishes.

5 TECHNICAL SPECIFICATION

Accuracy:	$\pm 5\%$ of the 1.2" reading or $\pm 2.5\mu\text{m}/0.1\text{mils}$ (whichever is the greater)
Minimum Area of Measurement:	30mm (1.18") Diameter
Minimum Diameter for Measurement on bar material:	20mm (0.8")
Edge Effects:	Must be at least 6mm (0.24") from edge
Dimensions:	200 x 60 x 30mm (7.8 x 2.4 x 1.2")
Certificate available:	Certificate of Conformance and Calibration Certificate

