

Electromech Instruments



COATING THICKNESS GAUGES



ELECOAT

INTRODUCTION

Coatings are materials that are applied to a surface to improve its appearance, performance or durability. Coatings can be applied to a variety of materials, including metal, wood, plastic, and concrete etc.

There are many different types of coatings, most common types include Polyurethane coatings, Epoxy coatings, Alkyd coatings, Zinc coatings, Acrylic coatings etc.

Coating thickness gauges provides accurate measurements of the thickness of coatings over coated substrates. Coating thickness gauges play a very crucial role in quality control processes, enabling manufacturers to verify coating thickness during production to ensure consistency in product performance. Correct measurement of coating thickness using these gauges detects, surface defects such as uneven coatings, inadequate coverage, or insufficient adhesion, and also ensure longevity and durability of the coated substrates by monitoring coating thickness over time, by detecting changes in thickness they help to classify areas prone to corrosion.

Coating thickness measurement core working principles: Magnetic Induction and Eddy Current.

Magnetic Induction: This principle involves using a probe with a magnetic field that interacts with the substrate and coating. The gauge measures the change in magnetic field strength, which correlates to the coating thickness.

Eddy Current: A probe emits an alternating current that creates a magnetic field. When the probe is placed near a conductive coating, eddy currents are induced. The gauge measures the changes in these currents, providing information about the coating thickness.



FEATURES

1. Non-Destructive:

Coating thickness gauges utilize non-destructive testing methods, allowing measurement of coating thickness without damaging the coating and substrate. This saves both time and resources, making them ideal for various industries.

2. Gauge Versatility:

Instrument is Handheld, light weighted, having big clear visual display along with Sound audible buzzer on easy to carry ABS case with attractive tactile Membrane keypad.

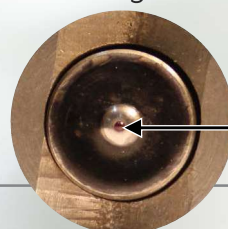
3. Probe Sensor: Well-balanced spring-loaded Probe Sensor With advanced sensor technology and precise calibration offer exceptional reading accuracy, speed and repeatability.

4. Gauge Compatibility:

Compatible with various coating materials, including paint, powder, Plating, Anodising and more on Different Substrates.

5. Wide Application:

From automotive manufacturing to aerospace, marine, and construction, coating thickness gauges find application across a wide range of industries. These Gauges provides precise measurements, ensuring compliance with strict industry standards and delivering reliable data for quality control.



**Ruby Tip Probe
Sensor on Demand***

* For selected models

Elecoat-M: Measures Non-Magnetic Coatings on Magnetic Base

The Non-Magnetic coating may be of materials like:

- Plating : Gold, Copper, Zinc, Tin, Chromium, Hard Chromium, Lead etc.
- Coating: Paint, Resinous coating.
- Lining: Resin, Rubber, Fibre Glass.
- Film: Plastic, Copper foils.
- Parkerising
- Metalising
- Insulation coating.

The magnetic base may be of materials like:

- Iron
- Nickel
- Cobalt
- Magnetic Stainless Steel etc.



Elecoat-C: Measures Non-Conductive Coatings on Conductive Base

The Non-Conductive coating may be of materials like:

- Coating: Paint, Resinous coating.
- Lining: Resin, Rubber, Fibre Glass.
- Film: Plastic
- Anodizing
- Insulation coating

The Conductive base may be of materials like:

- Aluminium
- Copper
- Brass
- Non- Magnetic Stainless Steel



Elecoat-CF: Measures Non-Magnetic Coatings on Magnetic Base and/or Non-Conductive Coatings on Conductive Base

The Non-Magnetic coating may be of materials like:

- Plating : Gold, Copper, Zinc, Tin, Chromium, Hard Chromium, Lead etc.
- Coating: Paint, Resinous coating.
- Lining: Resin, Rubber, Fibre Glass.
- Film: Plastic, Copper foils.
- Parkerising
- Metalising
- Insulation coating

The magnetic base may be of materials like:

- Iron
- Nickel
- Cobalt
- Magnetic Stainless Steel etc.



And /Or

The Non-Conductive coating may be of materials like:

- Coating: Paint, Resinous coating.
- Lining: Resin, Rubber, Fibre Glass.
- Film: Plastic
- Anodizing
- Insulation coating.

The Conductive base may be of materials like:

- Aluminium
- Copper
- Brass
- Non- Magnetic Stainless Steel etc.

TECHNICAL SPECIFICATIONS

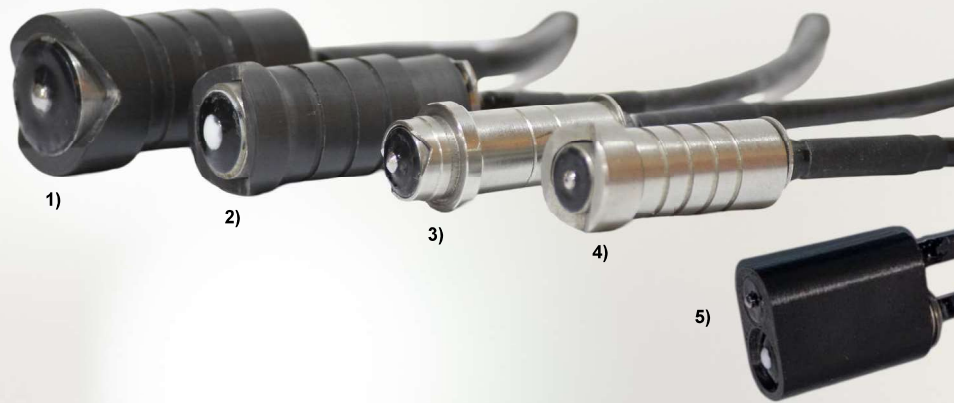
Range (Microns)	0-1500, 2000, 3000, 6000, 12000#	Instrument Size (in mm)	135*70*24 117*85*24
Resolution (Microns)	0.1<20 Microns, 1>20 Microns	Battery Supply Voltage / type	9 Volts (6F22)
Minimum Base Thickness	0.3 MM	Working Temperature	10-15 degree C
Minimum Measuring Area	6 MM	Standard Probe Size	18 MM *14 MM (D*L) 40 MM * 25 MM# (D*L)

#12000 microns available only in Elecoat M.

*Combined model dimensions

PROBES

- 1) 12mm Ferrous Probe
- 2) Conductive Probe
- 3) Ferrous Probe
- 4) Ruby Tip Probe
- 5) Combined Probe



GAUGE SELECTION

COATING	Aluminium	Brass	Bronze	Copper	Steel	Magnesium	S.S.	Titanium	Uranium	Zinc
Aluminium	-	-	-	-	M	-	-	-	-	-
Anodising	C	-	-	-	-	C	-	-	-	-
Brass	-	-	-	-	M	-	-	-	-	-
Bronze	-	-	-	-	M	-	-	-	-	-
Cadmium	-	-	-	-	M	-	-	-	-	-
Chrome (Hard)	C*	-	-	C*	M	-	-	-	-	-
Copper	-	-	-	-	M	-	-	-	-	-
Eloxal	C	-	-	-	M	-	-	-	-	-
Epoxy	C	C	C	C	M	-	C	C	-	C
Galvanising	-	-	-	-	M	-	-	-	-	-
Lacquer	C	C	C	C	M	-	C	C	-	C
Metal Spray	-	-	-	-	M	-	-	-	-	-
Molybdenum Disulphide	-	-	-	-	M	-	C	-	-	-
Nickel (Electroless)	C*	C*	-	C*	M	-	-	-	-	-
Paint	C	C	C	C	M	C	C	C	C	C
Plastic	C	C	C	C	M	C	-	C	C	C
Plating	-	-	-	-	M	-	-	-	-	-
Rubber	C	-	-	-	M	-	-	-	C	-
Resist	-	-	-	C	-	-	-	-	-	-
Tin	-	-	-	-	M	-	-	-	-	-
Varnish	C	C	C	C	M	-	-	-	-	-
Zinc	-	-	-	-	M	-	-	-	-	-

C: use Elecoat - C Instrument
M: use Elecoat- M Instrument

*: Known sample required for calibration
#: Range is to be decided by user