



**SERFILCO®**

## COATING THICKNESS TESTERS

BULLETIN  
A-405A  
OCT. 1991

***Swift, accurate measurement of painted and plated thicknesses on metallic or non-metallic substrates***

PM10  
PE10

H10  
E10

H10/2  
E10/2

K5000

K1000

### ***Measuring the thickness of:***

- Paint of all compositions:**  
Conventional, high solids, electro-deposition, powder coating
- Almost all electroplated coatings from gold to chrome, including duplex nickel**

- Other coatings:**  
Hot dipped galvanizing, tinning, plastics, ceramics, glass, rubber, dry adhesives, porcelain enameling, anodizing including hard coat

- For plating suppliers and paint manufacturers -- in-house quality control, research, and on-site customer service.
- For buyers of plated or painted parts -- fast, accurate testing to insure your incoming products meet your specifications.
- For platers and coaters -- a dependable analytical method of measuring and documenting quality control results to meet customers' SPC requirements.
- Compact, hand-held, non-destructive models for easy portability throughout the plant.
- Bench-type production line models for destructive testing and incomparably accurate measurement of plated deposits on metallic or non-metallic substrates.
- Easy to use -- accuracy, repeatability, simplicity even by the most inexperienced operator.
- Measures non-conductive coatings on conductive surfaces or non-magnetic and non-metallic coatings on ferro-magnetic substrates.

***Models available that provide statistical evaluation of multiple measurements using accurate multi-point calibration for easy statistical data support and documentation.***

# COATING THICKNESS TESTERS

*For the non-destructive measurement of plastic and electroplated coatings on steel, and for anodized aluminum and paint coatings on ferrous and non-ferrous metals*

H10  
E10

H10/2  
E10/2

PM10  
PE10

**12 models available to meet your needs:**

- EASY TO USE**
- FAST - readings on probe contact**
- PRECISE-Measurements within  $\pm .00001"$**
- VERSATILE - For on-line operations, hand held or benchtop use**
- SPC READY - Models with printer port availability; computer adaptability**
- DURABLE-Corrosion protective enclosure**
- FOR THE LONG JOB - 22 hours of continuous duty per battery**

**H and PM** - electromagnetic induction principle for non-magnetic coatings on iron and steel.

**E and PE** - eddy current principle for non-conductive coatings on non-ferrous metals and alloys.

## MODELS H10/2 and E10/2

These models utilize the latest HCMOS microprocessor technology. Unique design, userfriendly software and  $\pm 1\%$  measurement precision provide the user with a powerful, yet easy to use instrument ideal for statistical process control (SPC) applications. 10/2 Series Models are ideal for multi-point calibration, statistical evaluation of multiple measurements and statistical data support and documentation. Additional features include six non-volatile calibration memories, batch facility and multi-point calibration.

**DIMENSIONS:** 7" L x 4" W x 1 $\frac{3}{4}$ " H

**WEIGHT:** 1 lb. (0.46 kg)

**AC CAPABILITY (Optional):** 120VAC, 60 Hz or 220 VAC, 50 Hz

**DISPLAY:** 2 row x 165 column alphanumeric dot matrix LCD, 0.22" H x 0.12W (5.6mm x 2.9mm)

**PROBE:** Single point probe and constant pressure sleeve with V-notch cut-out for measurements of shafts. 36" cable.

**BATTERY:** (1) 9 volt Lithium Cell

**BATTERY LIFE:** 22 hrs. continuous duty

## MODELS H10 and E10

These models are designed for the user who needs the average and range of up to 10 samples per lot for use in maintaining control charts. They provide the user with: mean, maximum and minimum thicknesses, standard deviation and the number of measurements taken. Easy to operate, Series 10 thickness testers deliver consistent reliability with a precision of  $\pm .00001"$ . Model H10 is available in a 0-1 mil. narrow range model specifically designed for the electroplating industry.

## MODELS PM10 and PE10

These models are basic measuring instruments that deliver reliability and performance with a precision of  $\pm 0.0001"$  at an economical price. Model P10 thickness testers are easy to operate; simply calibrate and measure. They are ideal for the user who needs to spot check production periodically.

## SUBSTRATE SPECIFICATIONS:

Min. Area: 1.2" x 1.2" (30mm x 30mm)

Min. Curvature: 0.6" radius (15mm)

Min. Thickness: 32 mils (0.8mm)

**ACCURACY:** H10, PM10, E10, PE10:  $\pm 3\% + 0.05$  mil

H10/2, E10/2 (3 or 4 pt. calibration):  $\pm 1\% + 0.05$  mil

## TO ORDER

\* M after Model Number indicates metric version.

MODEL	RANGE	PROBE	APPLICATIONS	STATISTICS	RS232C	PRINTER	APPLICATION MEMORY	CALIBRATION POINTS	MAXIMUM BATCHES	MAXIMUM SAMPLE SIZE	PRICE CODE NO.
H10/2	0-40 mil 1 - 1 0 0 0	MAG	Specification Plating and Coatings (SPC)	YES	YES	YES	6	1, 2, 3 or 4	30	255	37-5300
H10 H10M *	mm 0-1 mil	MAG	Plating, Thin Paint	YES	NO	NO	0	1	1	10	37-5105 37-5107
H10 H10M *	0-25 mm 0-25 mil	MAG	Heavy Plating, Hard Chrome, Paint, Galvanizing, Organic Coatings	YES	NO	NO	0	1	1	10	37-5109 37-5111
PM10 PM10M*	0-635 mm 0-25 mil	MAG	Paint, Powder Coatings, Epoxy, Rubber, Glass, Ceramics, Enamel, Plastics, Dry Adhesives	NO	NO	NO	0	1	0	1	37-5114 37-5117
E10/2	0-635 mm 0-40 mil	EDDY	Specification Anodizing and Coatings (SPC)	YES	YES	YES	6	1, 2, 3 or 4	30	255	37-5400
E10 E10M *	1-1000 mm 0-25 mil	EDDY	Anodizing, Hard Coat, Paint, Organic Coatings	YES	NO	NO	0	1	1	10	37-5009 37-5011
PE10 PE10M*	0-635 mm 0-25 mil 0-635 mm	EDDY	Paint, Powder Coatings, Epoxy, Rubber, Glass, Ceramics, Enamel, Plastics, Dry Adhesives	NO	NO	NO	0	1	0	1	37-5013 37-5018

## OPTIONAL

AC Transformer, 120VAC, 60 Hz  
AC Transformer, 220 VAC, 50 Hz

PRICE CODE NO. 37-5003  
PRICE CODE NO. 37-5004

**SERIES H** Thickness Testers comply with the requirements of ASTM B499, ISO 2178, BS 5411 and DIN 50981.

**SERIES E** Thickness Testers comply with the requirements of ASTM B244, ISO 2360, BS 5411 (3), and DIN 50984.

# PLATING THICKNESS TESTERS

*For the very accurate measurement of all electroplated deposits on any substrate.*

## MODEL K5000

- Measures almost all electro deposited metals on metallic or nonmetallic substrates.
- Measures multiple coatings and gives individual readings.
- Measures plating thickness on wire.
- Measures electroless nickel.

**SIX SIMPLE STEPS**

**EASY TO LEARN**

**ACCURACY, REPEATABILITY,  
SIMPLICITY -- even by the most  
inexperienced operator**

**BUILT TO OPERATE RELIABLY UNDER  
ALL CONDITIONS, SHOP OR LAB**

**HEAVY GAUGE CORROSION-  
RESISTANT STEEL CASE with solid  
state, modular constructed circuit**

- Measures the electro chemical potential difference between duplex nickel deposits (STEP).
- Measures very thin coatings such as decorative chromium and gold. Readings in millionths.

*Over 250 coating / substrate combinations.*

## MODEL K5000

Offers the ultimate in versatility. Regardless of the number of plated layers, each can be individually measured. Base material, shape, surface roughness, electrical or magnetic properties do not affect results. Measure anything from 0.000005" to 2 mils. This digital thick-

ness tester utilizes the coulometric principle. A small area is anodically depilated with an electrolytic solution applied at a constant. Completed results are displayed as thickness on the instrument panel.

**LINE VOLTAGE:** 110V-60 Hz standard.

110V-50Hz or 220V-50Hz available at no additional charge.

Regulating features maintain even current output.

**DIMENSIONS:** Width: 15" (38.1 cm)

Depth: 12" (30.5 cm)

Height: 6.5" (16.5 cm)

**NET WEIGHT:** 20 pounds (9.0 kg)

**MODEL K5000** meets the requirements of ASTM specifications B504, B298, B355 and ISO Standard 2177.

DESCRIPTION	PRICE CODE NO.
110V - 60 Hz (Standard)	37-5000
110V - 50 Hz	37-5001
220V - 50 Hz	37-5002

## MODEL K1000

Economy model. Same versatility and accuracy as Model K5000, but at a lower price. Simplified, yet ruggedly constructed for production line use. Will perform most common applications. A perfect choice for the cost conscious job shop plater.

PRICE CODE NO.
37-1000

## **SERFILCO® also offers:**

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**Get in control !  
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coating thickness gauges.**