elcometer 550 Mark II Non Contact Uncured Powder Thickness Gauge

Can be used in accordance with:

ISO 8780-5, ISO 787/16
ASTM D 387, ASTM D 332, NFT 30 023.
USA Patent Number 6250159 B1

The Elcometer 550 Mark II offers the User an unrivalled approach to measuring uncured powder thicknesses - **without touching the powder.**

The Elcometer 550 Mark II is a coating thickness gauge that **uses unique ultrasonic technology** to measure uncured powder coatings without contacting the surface and **predicts the final thickness** of the coating after cure.

The Elcometer 550 Mark II is designed to provide the user with the correct value of the cured film thickness by the measurement of the uncured powder thickness - enabling the application system (powder guns, line speed, etc) to be set up and fine tuned.

- Improves quality and saves you money
- Fast, easy to use
- Metric and Imperial versions
- Works on any rigid surface

The gauge has been designed for measuring the thickness of uncured powder coatings on smooth flat or curved metallic surfaces such as steel, aluminium, etc. The shrinkage that occurs when the powder cures in the oven is allowed for in the calibration of the gauge and the thickness displayed is the final coating thickness after cure.

Features

- Uses ultrasonic technology to measure the thickness of the uncured powder coating, without touching the surface.
- Can be used on all metallic surfaces, with all commercial powders.
- Helps to easily avoid edge runs and orange peel effect by improved monitoring and control.

Background to Uncured Powder Thickness Measurement

A powder coating has many advantages over a wet coating system, including :

- Little or no waste – excess powder or over-sprayed powder can be recycled and reused
- No solvents – new, tighter environmental controls of VOC emissions and legislation increases the need to use less or no solvents.

Making sure that the end product has the correct levels of adhesion and appearance - in particular gloss and colour- is dependent upon the thickness of the powder prior to the curing process, and the temperature profile of the oven.

Measuring the thickness of powder however, is difficult as touching it changes the powder thickness compressing it under the force. Elcometer have therefore developed two solutions to this problem.

Operation

- The probe is positioned about 18 mm away from the surface to be measured and the Measure Button is pressed. The gauge's LEDs, on both the front panel and the probe, indicate the position and alignment of the probe relative to the surface.
- One set of LED's indicate distance.
    - If the middle LED is lit the distance is correct
    - If the LED's to the right are lit the probe is too far away.
    - If the LED's to the left are lit the probe is too close.
- The other set of LED's indicate the alignment of the reflected ultrasound. For optimum measurement the probe must be aligned at 90º to the surface.
    - If all the LED's are illuminated the alignment is correct.
    - When the position of the probe relative to the surface to be measured is optimised, the gauge will automatically take readings.
- As the readings are taken the count is displayed on the gauge.
- Press the measurement button again to stop the measurement.
- After about one second the gauge will display the predicted cured powder coating thicknesses.

Technical Specifications

Measurement Range	30 - 110µm	Resolution	1µm
Measurement Offset Distance	Approx. 18mm	Power Supply	Rechargeable Battery (NiMh 2100mAh)
Measurement Accuracy	±5µm	Housing	Aluminium, dust proof
Measurement Area	1mm	Display	Graphic LCD. 128 x 64 pixels with backlight
Operating Temperature	5 to 45°C	Sample Rate	16 Pulse per second
Dimensions	230 x 105 x 355 mm	Calculating Time	3 to 6 seconds
Weight	1186g		

Packing List

- Elcometer 550 Gauge with rechargeable battery
- Battery Charger Unit with Separate Mains Power Supply
- Ultrasonic Probe and lead
- Spare Rechargeable Battery
- Calibration Standard
- Operating Instruction Book

Part Numbers

Model	Description	Part Number
Elcometer 550	Elcometer 550 Non Contact Powder Thickness Gauge	A550----2
Accessories	Spare Battery Pack	T55016120
	Calibration Block	T55016863