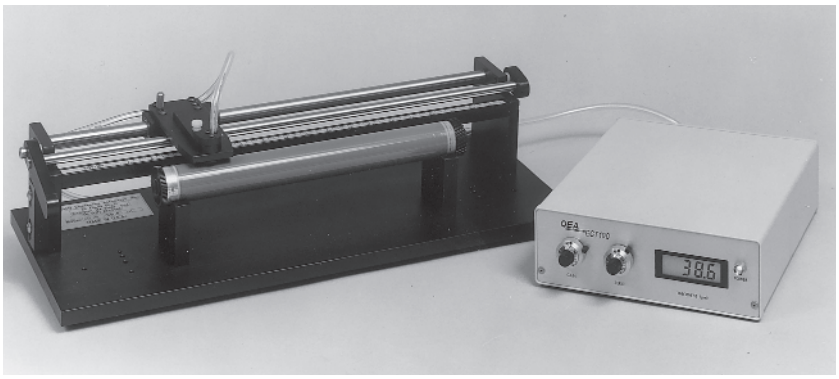

The ECT-100 is a drum coating thickness gauge that operates on the eddy current principle. Although used primarily for evaluating the coatings of photoconducting drums, the ECT-100 can also be used to measure other non-conductive coatings on metallic drums or rollers when the proper supports are installed.

Overview

A standard ECT-100 system consists of the main electronic unit and a manual scanning fixture for the drum. The system can measure coating thicknesses up to 100 µm. Measurements of typical thicknesses in the range of 0 to 50 microns are accurate to ± 1 µm. A zero adjustment control corrects for drift and variations in substrate characteristics. A gain adjustment control is provided for thickness calibration. The system tests a broad range of drum and roller types and sizes. The basic unit tests components up to 360 mm long.

In a typical test session, the operator loads a drum onto the ECT-100 scanning fixture, moves the probe to the desired test position, and depresses the probe to take the reading. The system reports the coating thickness in microns on the display on the electronic unit. A scale adjacent to the probe slide facilitates recording measurement positions.

Typical Applications

- OPC drum development
- Process development
- Production quality control
- Assessment of recycled drums for reuse

Quality Engineering Associates, Inc.
99 South Bedford Street #4, Burlington, Massachusetts 01803 USA
Tel: (781) 221-0080 Fax: (781) 221-7107 Email: info@qea.com URL: www.qea.com

System Specifications*

ECT-100™

Test Functions

- Measurement of non-conductive coating thickness on metal drums
- Typical thickness range is 0 to 50 µm; other ranges available

User-Accessible Adjustments

- Zero
- Gain

Cycle Time

- Typical cycle time is less than 60 seconds

System Hardware

- Main electronic unit
- Manual scanning fixture
- Probe diameter: Approximately 2 mm
- Active sensing area: Approximately .5 mm

Drum Dimensions

- Drum diameter: 30-40 mm, standard; fixtures for other diameters available as options
- Minimum drum length: 250 mm, standard; fixtures for shorter drums available as options
- Effective measurement region: 330 mm, standard; fixtures for longer drums available as options

Accuracy

- Accuracy is ±1 µm @ 22° C and 50% RH
- Precision is ±1 µm @ 22° C and 50% RH
- Drift is less than ±2 µm in 24 hours at constant temperature and humidity
- Zero offsets can be compensated by using the front panel ZERO control
- Display resolution is 0.1 µm

Computer Interface (optional)

- Analog outputs for display and probe provided on rear panel (standard)
- Consult factory for custom software development and support (optional)

Electrical Requirements

- 110 volts±10% @ 50/60 Hz or 230 volts±10% @ 50 Hz, factory installed

Maintenance and Operating Environment

- Requires good maintenance practices typical for laboratory equipment
- Probe tip and drum surface must be kept free of dust
- Operating temperature range: 15° to 30° C (60° to 85° F) – consistent readings achievable only with consistent operating temperature
- Relative humidity: 20% to 80% (non-condensing)

Dimensions and Shipping Weight

- Electronic unit: 8 cm x 18 cm x 25 cm (3" x 7" x 10")
- Scanner: 15 cm x 18 cm x 46 cm (6" x 7" x 18")
- Packaged dimensions: 71 cm x 61 cm x 25 cm (28" x 24" x 10")
- Approximate shipping weight: 12 kg (25 lb)

Documentation

- User's Guide

QEA, Inc., 99 South Bedford Street #4, Burlington, Massachusetts 01803 USA