µPELT-ts PELT® Gauge (PELT-uPts5)

Multi-Layer Ultrasonic Thickness Gauge

BENEFITS

• Multiple layers from one measurement (up to 5 layers with a PELT-uPts5)

• Non-destructive coating measurements on any substrate (Steel, Aluminum, SMC, Plastics, Carbon Fiber, Wood, Glass, etc.)

• Thickness verification and Process Control of complex coatings

FEATURES

• USB Interface

• Color Touch-screen display

• Smaller and Lighter than µP501A

• Improved Gauge Precision (R&R results)

• Excellent Accuracy

• Compatible with µPELT Calibrations & Jobs

PELT-uPts5

The µPELT-ts model PELT-uPts5 PELT gauge is a precise, multi-layer ultrasonic coating thickness gauge. PELT gauges use advanced ultrasonic technology to achieve excellent measurement accuracy, repeatability and reproducibility. The PELT-uPts5 hand-held portable gauge allows monitoring in any production environment. The supplied Windows application software manages data transfer and automated ultrasonic waveform analysis (Autogauge2 Algorithms).

PELT gauges readily monitor both coating thickness and uniformity to verify that all coating layers are within specification. Ease of measurement allows the user to measure more point locations per part and increases the number of parts that can be measured for improved process control.

PELMANAGER™ host PC software (included)

The PELT Manager Windows® application provides a powerful and easy to use interface for µPELT-ts gauges. Calibration information and measurement data can easily be transferred to and from the gauge. Automated ultrasonic waveform analysis is performed by updated Autogauge2 algorithms.
Measurement Specifications

Measurement Method
Contact ultrasonic (ASTM standard E797-95)

Couplant
Application dependent, usually water

Max. Layers
Five (5)

Calibrated Accuracy
± 1.3 microns (+/- 0.05 mils) or ± 2% of the coating thickness, whichever is greater

Resolution *
1 micron (0.001 mm, 0.04 mils)

Minimum Layer Thickness *
- Mid coatings: 10 microns (0.010 mm, 0.4 mils)
- Single coatings: 15 microns (0.015 mm, 0.6 mils)
- Top coatings: 25 microns (0.025 mm, 1.0 mils)

Maximum Thickness (Total Coatings) **
- Standard transducer: 2mm (0.08 in.)
- Optional transducer: 10mm (0.40 in.)

Measurement Units
Selectable: Metric (microns) / English (mils)

Gauge Repeatability and Reproducibility (% R & R) **
< 10% for solvent and waterborne coatings with typical process variation (Varies by layer)

Supported transducers
- Contact, Contact Delay Line, Immersion types

Minimum radius of curvature of measurement surface
- Using standard transducer:
  - Convex surface: > 50.8 mm (2.0") radius
  - Concave surface: > 152.4 mm (6.0") radius

Device Specifications

Data Storage
Non-volatile storage for data and calibrations
Storage for >10k measurement points

Power
3.6V Li Ion rechargeable battery (2 included)
8 hour shift on one battery, (3 hour recharge)
100-240V; 50-60Hz 5VDC external AC Adapter (included)
[Also charges the battery in the gauge]

Dimensions
175mm x 150mm x 55mm (6.9" x 5.9" x 2.2")
Weight: 1.18Kg (2.6 lbs) with battery

Environmental
Operating Temp: 0°C to 40°C
Humidity: < 80% at all times

Housing
Extruded aluminum – powder coated
Protective films included (screen & body)

Acceleration / Shock
Operational after 11 mins. of 10-500Hz, 1g. sinusoidal vibration
Operational after single 11-ms. shock of 30g

Software Requirements

Operating System
Microsoft® Windows XP, Vista, Win 7

Thickness Data Reporting

Measurement Data Format
Delimited ASCII files generated by PELT Manager™ software

Reporting Software
Optional: Custom job/part silhouettes
Depicts 1 layer per sheet
(Microsoft Excel® required)

* Minimum thickness and resolution are typical, based on: solvent, water-borne and powder paint coatings.
** Material dependent, value based on non-metallic example.
Specifications are subject to change without notice.
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