µP501A PELT®

Multi-Layer Ultrasonic Thickness Gauge

Benefits:

- Verify all coatings of a multi-layer process with a single measurement
- Make coating thickness measurements on virtually any substrate
- Measure directly on production parts
- Non-destructive — No damage to measured parts
- Reduce costs by easily checking quality and consistency
- Minimize your measurement time and effort
- Eliminate sample preparation and special test panels
- Calibrate to your coating process to achieve excellent measurement accuracy
- Readily produce customized thickness reports for easy visualization

Features:

- Non-destructive, multi-layer thickness measurements
- Reports the thickness of each individual layer (up to 5 layers) and the total thickness of all measured layers
- Compatible with most combinations of coatings and substrate materials
  - Coatings: paints, waterborne paints, plastics, composite metals, epoxies, rubber and other coatings
  - Substrates: plastics, composites, wood, glass, metal and others
- Automatic analysis of ultrasonic waveforms using PELT Explorer Windows™ software (included)
- Hand-held, portable operation for up to 8 hours with a single battery
- Removable and rechargeable batteries
- Excellent Gauge R&R (Repeatability and Reproducibility)

The PELT model µP501A is a precise, multi-layer, ultrasonic coating thickness gauge. PELT gauges use advanced technology to achieve excellent thickness measurement accuracy, repeatability and reproducibility. The µP501A hand-held portable gauge allows coating thickness to be monitored in any production environment. The supplied Windows application software manages data transfer and ultrasonic waveform analysis. Optional Microsoft Excel-based reporting software allows visualization of thickness data in customized formats.

PELT gauges easily monitor coating thickness and uniformity to verify that all coating layers are within acceptable limits. Ease of measurement allows the user to measure more point locations on each production part and increases the number of parts that can be measured. This additional coating thickness data enables dramatic improvements in process control.

PELT

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µP501A PELT Gauge Specifications

Measurement Specifications

Measurement Method	Contact ultrasonic in accordance with ASTM standard E797-95
Couplant	Application dependent, usually water
Max. Layers	Five (5) Coatings
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 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 **	Standard probe: 1.1 mm (.044 in.)
Measurement Units	Selectable Metric (microns) / English (mils)
Gauge Repeatability and Reproducibility (% R & R)	< 10% for solvent and waterborne coatings
Supported transducers	Contact, Contact Delay Line, Immersion type
Minimum radius of curvature for gauging surface	Using standard probe: Convex surface: > 50.8 mm (2.0") radius Concave surface: > 152.4 mm (6.0") radius

Device Specifications

Data Storage	Non-volatile memory storage of all data and calibration files Storage of ~1000 measurements
Power	Ni-MH rechargeable battery, 8 hours on one battery, 1 hour recharge time AC power adapter included
Dimensions	255 mm x 191 mm x 45 mm (10" x 7.5" x 1.8") Weight: 1.6 kg (3.5 lbs) with battery
Environmental	Operating Temp: 0˚ C to 50˚ C (32 – 104˚ F) Humidity: < 85% at all times
Housing	Ruggedized metal housing, leather case included
Acceleration / Shock	Operational after 11 mins. of 10-500Hz, 1g sinusoidal vibration Operational after single 11-ms. shock of 30g

System Requirements

Operating System	Microsoft® Windows 2000 or XP
Port Connectivity	USB or RS-232

Thickness Data Reporting

Reporting Software	Optional: Custom job/part silhouettes or thickness vs. location chart. Depicts 1 layer per sheet. (Microsoft Excel® required)
Exported Data Format	Delimited ASCII files generated by PELT Explorer software

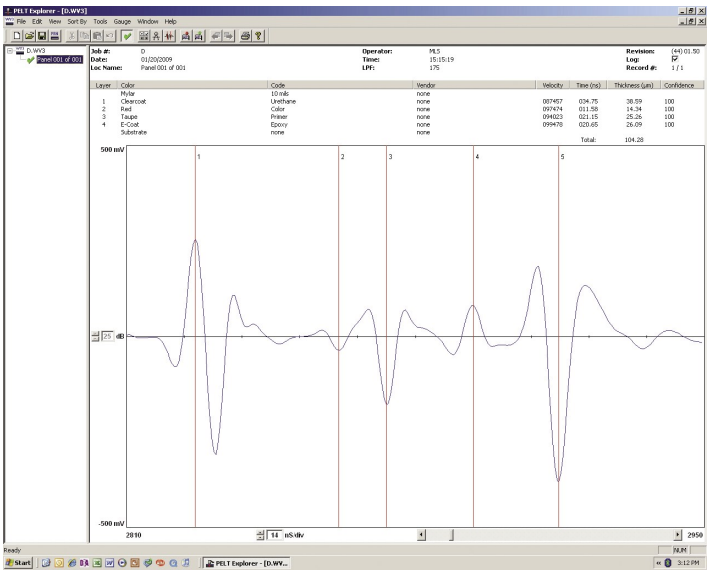
Specifications are subject to change without notice.

* Minimum thickness and resolution are typical, based on: solvent, water-borne and powder paint coatings.

** Material dependent, value based on non-metallic example.

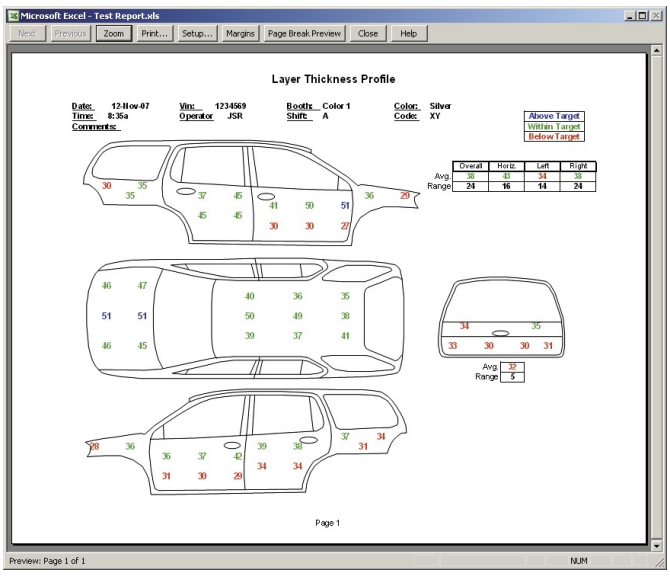
PELT Explorer host PC software (included)

PELT Explorer software is a Windows® based host PC program that provides a powerful and easy to use interface to the µP501A. Calibration information and measurement data can easily be transferred to and from the gauge.



Example Layer Thickness Report (optional)

Layer Thickness Profile



PELT — The leading multi-layer coating thickness gauges