

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
- Thickness verification and Process Control of complex coatings

FEATURES

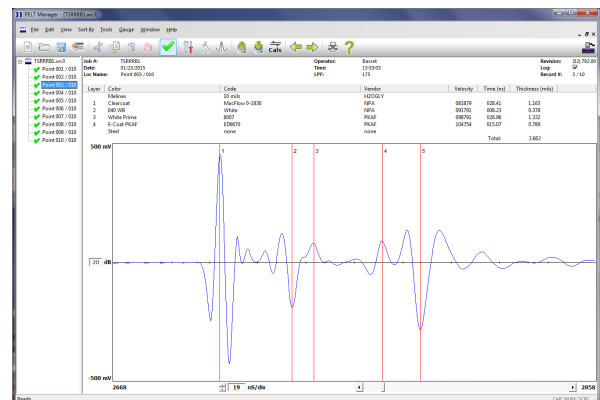
- Combines the capability of a PELT-uPts5 and a PELT-uPts3H (Dual Pulsers give selectable measurement mode)
- Smaller and Lighter than μP502
- Improved Precision; Excellent Accuracy
- Capable of 5-layer measurements with the High Penetration (“H”) pulser selected
- Compatible with μPELT Calibrations & Jobs



PELT-uPts5+

The μPELT-ts model PELT-uPts5+ PELT gauge is a dual-pulser, 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.



PELTManager™ 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 *

0.5 to 0.33 micron (0.02 to 0.013 mils)

Minimum Layer Thickness *

"U" Pulser Mode

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)

"H" Pulser Mode

Mid coatings: 15 microns (0.015 mm, 0.6 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) **

"U" Pulser and Matching Transducer

3mm (0.1 in.)

"H" Pulser and Matching Transducer

15mm (0.6 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



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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 7 and 10

Thickness Data Reporting

Measurement Data Format

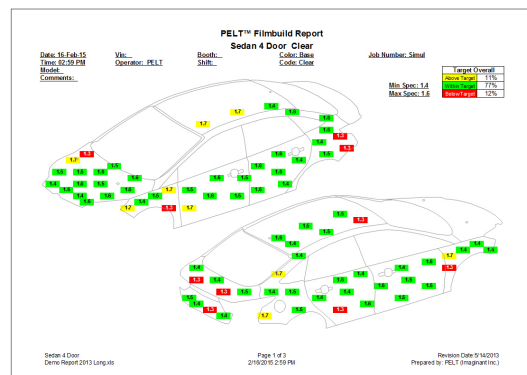
Delimited ASCII files generated by PELT
Manager™ software

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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