

Ultrasonic Coating Thickness Gauge

For certain non-metallic substrates such as wood, glass, plastic, and concrete, non-destructive measurement of coating thickness, especially in multi-layer coating systems might be particularly challenging. The newly developed BGD 549 Ultrasonic Coating Thickness Gauge by Biuged effectively addresses this issue.

This instrument operates on the ultrasonic principle, where the probe emits high-frequency ultrasonic pulses that travel through a coupling agent (transit time negligible) into the coating. When encountering interfaces between layers of differing densities, part of the ultrasonic wave reflects as a new pulse, while the remainder continues through. The reflected pulse returns to the probe, where it is captured by the built-in ultrasonic sensor. The instrument processes the pulse's travel time within the coating to calculate the corresponding thickness.

Designed and manufactured in compliance with ISO/TS 19397 Determination of Paint Film Thickness-Ultrasonic Thickness Gauge Method, the BGD 549 is not only specialized for measuring coating thickness on plastic, wood, glass, and other non-metallic substrates but also capable of measuring coatings and base material thickness on metal substrates.

Features

- ◆ Wide Application Range: Measures coatings on almost any substrate, including steel, aluminum, plastic, glass, and more.
 - ◆ Multi-Layer Measurement: Supports up to 3 layers (coatings or coating + substrate), meeting complex inspection needs.
 - ◆ High-Speed ADC Technology: 1μm resolution for micron-level precision.
 - ◆ Industrial-Grade IPS Color Screen, Intuitive menu-driven operation with clear visualization.
 - ◆ Broad Measurement Range: 13-5500μm (epoxy resin coatings), 300-14800μm (45# steel)
- Covers ultra-thin to heavy coatings, adapting to multi-material, multi-process scenarios.
- ◆ Real-Time Waveform Display.
 - ◆ Adjustable cursor helps analyze coating structure and verify measurement boundaries for improved accuracy.
 - ◆ Auto-Gain Switching-- Automatically selects optimal gain based on material type and thickness.
 - ◆ 3 Sound Velocity Adjustment Modes-- Choose by material, known thickness, or manual input for flexibility.
 - ◆ Threshold Filtering-- Set upper/lower limits and estimated thickness to eliminate interference echoes.
 - ◆ 999 Data Storage-- Large capacity for record-keeping and comparative analysis.
 - ◆ Φ6mm Small Measurement Area-- Ideal for fine structures and localized measurements.
 - ◆ Other Functions-- Zero calibration, continuous measurement mode, built-in temperature compensation.

Main Technical Parameters:

- ★ Measurement Range: 13μm ~ 5,500μm (epoxy coatings);
300μm ~ 14,800μm (45# steel)
- ★ Resolution: 1μm
- ★ Accuracy: $\leq \pm (3\%H + 3\mu m)$, where H = reference value
- ★ Sound Velocity Range: 1,000m/s ~ 9,999 m/s (adjustable)
- ★ Min. Measurement Area: Φ6mm
- ★ Display: 800 × 480 IPS color screen
- ★ Units: μm / mil
- ★ Languages: Simplified Chinese, English
- ★ Dimensions (Main Unit): 142mm × 91mm × 23mm
- ★ Probe Dimensions: Φ26mm × 42.1mm
- ★ Weight: 475g
- ★ Power Supply: Rechargeable Li-ion battery (3.7V, 4000mAh)
- ★ Charging Port: USB Type-C
- ★ Input Voltage: DC 5V
- ★ Operating Current: 447mA
- ★ Power Consumption: 1475mW
- ★ **Ordering Information:** BGD 549---Ultrasonic Thickness Gauge

