

Lead Based Paint (LBP) Analysis using DELTA Handheld XRF

The DELTA Tube Based Handheld XRF with the new, proprietary SmartScreen™ method for LBP measurements provides fast and accurate analysis of lead (Pb) in paint without radioactive isotopes.

Fast, Accurate Handheld XRF with New SmartScreen™ Method*

For LBP testing, the DELTA XRF with SmartScreen™ adjusts speed of measurement for optimum accuracy and maximum productivity. Most tests take less than 3 seconds. Even the longest tests are typically less than 10 seconds.

The absolute sensitivity for the DELTA tube based – SDD technology on surface coatings and materials, based on a 120 second test time, is 0.1µg/cm² or 0.0001mg/cm². Although many other conditions exist, the table below gives precision data in the context of residential Pb paint testing – where the action levels are typically in the 1.0mg/cm² range and testing times are often less than 10 seconds.

DELTA XRF SmartScreen™ 3-σ Precision

Pb Concentration	0.3 mg/cm ² Pb in Paint	
LBP Sample Type	Surface	Buried (12 layers of blank paint)
3 seconds test	0.053	0.08
10 seconds test	0.03	0.04

For most paint matrices, whether positive or negative for Pb, SmartScreen™ can deliver a rapid, accurate result. However, when SmartScreen™ identifies a challenging paint matrix through spectral analysis, it extends the measurement time as required for greater accuracy and analytical confidence.



Tube Based LBP Inspections No Radioactive Isotopes

- DELTA handheld XRF analyzers use X-ray tube sources, unlike radioactive isotope sources which are known to be slower and fade over time, requiring frequent resourcing or factory recalibrations.
- The X-ray tube output of a DELTA remains constant for testing with the same precision and speed for its entire life; it starts fast and stays fast.
- X-ray tube based analyzers are much less likely to report false LBP positives than radioactive isotope based analyzers when the Pb is actually in a solid structure, for example on the far side of a wall or door.
- X-ray tube based analyzers eliminate business liabilities associated with owning hazardous radioactive isotopes.
- DELTA handheld XRF analyzers are reliable, light-weight, and ergonomically designed. Optionally available dust wipe, filter, and soil analysis add-on capabilities can help expand business opportunities to other environmental safety inspections without having to purchase a second analyzer.
- The overall low total cost of ownership is a benefit with the DELTA handheld XRF – no resourcing, no biannual leak tests, no radioactive disposal costs, and no increased testing time with age.

*Patent rights Protection by but not limited to US61727350

**The DELTA does not have a HUD PCS; therefore, it is not suitable for HUD LBP.



DELTA Tube-Based Handheld XRF with New SmartScreen™ Method for LBP Inspection
Speed and Accuracy at Low Levels in Multilayers
Without the Liabilities of Radioactive Isotopes



DELTA Professional

The DELTA Professional with a 40kV tube and SDD detector is the best value solution from Olympus for handheld XRF analyzers. It provides superior performance in speed, LODs, and elemental range.



DELTA Premium

The DELTA Premium with advanced 40kV tube and large area SDD detector is best for ultra quick, analytically demanding applications, such as trace levels and light elements in low alloy steel, soil, mining, and metallurgical samples.



DELTA Classic Plus

The DELTA Classic Plus with a 40kV tube and SiPin detector is ideal for simple applications. It provides quick ID, screening, sorting, and elemental and metals analysis.

Some DELTA Professional and Premium models can be configured with a 50kV tube to optimize LODs for high-Z and challenging elements, such as Ag, Cd, Sn, Ba, Cr, Sb, Te, and Rare Earth Elements (REEs).

Features and Benefits

Powerful 4W X-ray tube, 200 μ A current (max), optimized beam settings

Tight geometry for exceptional LODs and high analysis throughput

Large-Area SDD and customized X-ray tube options for exceptional sensitivity and precision for more elements and materials

Patent-pending automatic barometric pressure correction that adjusts calibration as needed for more accurate analysis of light element.

Lightning-fast data acquisition for faster testing time

Floating Point Processor: Provides more calculations in less time, and leverages more advanced calibration algorithms

Integrated Bluetooth® for data input and output available in most countries

Integrated wide area heat sinks throughout the DELTA body for high power use in extreme temperatures

Analysis indicator lights visible from 360° to help ensure safe use

Advanced colortouch LCD screen for clarity, brightness, responsiveness, and energy efficiency for indoor/outdoor use

Accelerometer technology puts the unit into sleep mode to save energy when not in use; logs impacts for tool management

DELTA PC Software for enhanced data analysis, calibration modeling, and optional closed beam workstation operation

USB interface port for high-speed downloads and seamless PC control

Ergonomic rubberized handle for enhanced grip

Docking Station and Hot Swap Batteries



The unique DELTA Docking Station frees you from having to power down the analyzer. The station charges the analyzer battery and a spare, and performs periodic calibration checks. DELTAs can be operated 24/7 in the field with hot swap battery replacement.

www.olympus-ims.com

OLYMPUS

For inquiries - contact
www.olympus-ims.com/contact-us

OLYMPUS NDT INC.

48 Wood Avenue, Waltham, MA 02453, USA, Tel.: (1) 781-419-3900
12569 Gulf Freeway, Houston, TX 77034, USA, Tel.: (1) 281-922-9300

OLYMPUS NDT CANADA INC.

505, boul. du Parc-Technologique, Québec (Québec) G1P 4S9, Tel.: (1) 418-872-1155
1109 78 Ave, Edmonton (Alberta) T6P 1L8

OLYMPUS NDT INC. is ISO 9001 and 14001 certified

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