QUALITEST NORTH AMERICA

Advanced Testing Technologies

NEWSLETTER

October, 2026



Precious Metal Verification: Beyond the Acid Test

October 2026 — A customer wants to know what a gold chain is worth. A scrap dealer needs to sort mixed jewelry before smelting. A quality control lab must verify a casting batch against its stamped karat. Each faces the same question: is the metal genuine, and how much precious metal does it contain?

Traditional acid tests can damage the surface, reveal little about the interior, and miss sophisticated counterfeits. Reliable verification requires more than a surface-level assessment.

Qualitest's precious metal testing line addresses elemental composition, plating thickness, bulk density, and sample cleaning across four instrument types. From jewelry appraisal to industrial quality control, choose the right method for the material and the decision at hand.

Product Highlight

Handheld Portable XRF Analyzer

QualiX™ 2000 Series

Field-ready elemental analysis for alloys, ores, and RoHS screening — results in seconds, no lab required.

Feature/Advantages:



- **Three Specialized Models:** QualiX™ 2000A for alloy ID and PMI, 2000M for ores and minerals, and 2000R for RoHS screening.
- **Rapid Analysis:** 1–3 seconds for solid samples; up to 60 seconds for prepared powders, with detection limits of 1–500 ppm.
- **Broad Elemental Coverage:** Mg to U detection with a Fast-SDD detector offering resolution down to 125 eV for complex matrices.
- **Field-Ready Design:** Under 2 kg, with 8–12 hours of battery life, optional 27,000 mAh battery, and GPS tagging.



Qualitest USA

Toll-Free: 1.877.884.TEST (8378) | Fax: 954.697.8211
E-mail: info@qualitest-inc.com

Corporate Address: 8201 Peters Rd., #1000, Plantation, FL 33324, USA.

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Gold & Precious Metal Analyzer and EDX Spectrometer - QualiEDX™ 600

Benchtop EDXRF compositional analysis for gold, silver, and platinum at a competitive price point.

Feature/Advantages:



- **Proportional-Counter Detection:** Delivers accurate precious-metal composition analysis without the cost of a full semiconductor-detector lab spectrometer.
- **Wide Analytical Range:** Reads element content from 0.01% to 99.99%, covering everything from trace contamination to near-pure metal.
- **Independent Matrix-Effect Correction:** Multi-variable non-linear regression compensates for how surrounding elements skew a reading, improving accuracy on mixed alloys.
- **Compact Benchtop Footprint:** The 500 × 397 × 394 mm chamber fits a jewelry counter or QC bench without dedicated lab space.

Gold & Precious Metal Analyzer and EDX Spectrometer – QualiEDX™800

A step up in stability for shops that need repeatable plating-thickness measurement alongside composition testing.

Feature/Advantages:



- **Plating Thickness Analysis:** Measures gold-plating thickness on ornaments, helping identify thin-plated counterfeits.
- **Rated Long-Term Stability:** Holds within 0.1% on samples above 95% gold, so repeat tests on the same reference piece stay consistent over time.
- **Elements Beyond Gold:** Measures Au, Ag, Cu, and other common jewelry-alloy constituents from a single sample chamber.
- **Built for The Ornament and Bullion Trade:** The standard configuration (proportional counter, MCA, high-voltage generator, X-ray tube) targets banks, gold shops, and ornament processors.

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Gold Tester – Precious Metal Karat Tester

QT-GKS Series

Archimedes'-principle density testing that verifies 9K–24K gold, platinum, and silver in about 20 seconds — no acid, no scratches.



Feature/Advantages:

- **Three Specialized Models:** GK-300 for routine testing, GKS-300 for fine jewelry from 2 g, and GKS-3000 for bullion and scrap up to 3,000 g.
- **No Acid, No Damage:** The dry-weight/wet-weight comparison leaves no scratches or stains, unlike traditional acid or test-stone methods.
- **Doubles as A Precision Scale:** Every unit also functions as a standard gram scale and densimeter, giving the counter two instruments in one footprint.
- **Know The Limits:** Density testing can't always catch a tungsten-cored fake — pair it with an XRF or EDX spectrometer on high-value pieces for full confidence.

Ultrasonic Jewelry Cleaner

QualiUC™ J Series

The fast first step before polishing or testing — lifts tarnish and grime without hand scrubbing or harsh chemicals.



Feature/Advantages:

- **40kHz Cavitation Cleaning:** The 35W ultrasonic transducer clears tarnish, polishing compound, and oils from rings, chains, and watch cases in a single 3-minute auto-shutoff cycle.
- **Gentle Cleaning:** Removes surface grime from suitable gold and silver jewelry without manual scrubbing.
- **Dual-Voltage, Globally Certified:** Runs on 100–240V power and carries CE, FCC, PSE, and RoHS marks, so the same unit ships to any market Qualitest serves.
- **A Clean Sample Tests Better:** Removing surface oil and tarnish before an XRF or density reading reduces the chance of a skewed result from contamination on the piece.



QualiTrivia

Tungsten is the one material that can defeat a density-based gold test.

At roughly 19.25 g/cm^3 against gold's 19.32 g/cm^3, the two metals differ by well under half a percent — close enough that a tungsten-cored bar can pass a hydrostatic density check, a weigh-in, and even a surface-level XRF scan if the gold shell is thick enough.

It's the reason serious buyers pair a density check with elemental screening rather than relying on either alone.

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Which Precious Metal Tester Matches Your Business?

BEST FOR	RECOMMENDED MODEL	WHY THIS IS THE BEST FIT
Field techs, scrap yards, and PMI screening who need instant elemental ID on-site	QualiX™ 2000 Series	Handheld XRF returns solid-metal readings in 1–3 seconds with no sample prep, and the 2000R configuration is built for RoHS screening under IEC 62321-3-1.
Jewelry counters, pawn shops, and cash-for-gold kiosks running quick non-destructive purity checks	QT-GKS Series	Archimedes density testing verifies 9K–24K gold, platinum, and silver in about 20 seconds without acid, needles, or surface damage.
Small precious-metal shops needing benchtop compositional analysis on a budget	QualiEDX™ 600	A proportional-counter EDXRF spectrometer covers 0.01%–99.99% analytical content at a lower cost than a full lab-grade unit.
Banks, refiners, and ornament processors needing plating-thickness data and long-term repeatability	QualiEDX™800	Adds plating-thickness measurement and 0.1% long-term stability (above 95% gold) for consistent repeat testing on reference alloys.
Jewelry retailers and repair shops prepping pieces before a test or a sale	QualiUC™ J Series	40kHz cavitation clears tarnish and oil in one 3-minute cycle, so the piece reads clean on a scale or an XRF scan instead of skewing the result.

Why Choose Qualitest

Global Compliance, One Partner:
CE, FCC, RoHS, and ASTM/IEC-aligned instruments across the whole precious-metal line, so a single supplier covers testing methods and reporting standards worldwide.

QualiFinance Payment Plans:
Flexible financing brings a benchtop EDX spectrometer or handheld XRF analyzer within reach without a large upfront outlay.

Worldwide Service & Support:
A central service department and the global QualiService network keep instruments calibrated across USA, Canada, UAE, KSA, GCC, EU, India, APAC, Africa, and Latin America.

Non-Destructive Across Every Method:
XRF, EDXRF, and density testing all leave the piece intact — no acid, no melting, no drilled cores — protecting the value of what's being tested.

Ready to Verify Your Gold with Confidence?

Whether the job calls for instant field screening, benchtop compositional analysis, or a fast counter-side purity check, Qualitest's precious metal testing line covers it without acid or guesswork. Explore the full lineup:https://www.worldoftest.com/gold-tester-and-precious-metal-analyzer/

For guidance on configuring the right testing setup for your business: sales@qualitest-inc.com

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