

Precious Metals & Jewelry Analysis with Thermo Scientific Niton XRF Analyzers

Thermo Scientific Niton XRF Analyzers Enable Rapid Elemental Analysis



Photo courtesy of iPhoto.com.

Accurate Purity Analysis Meets Ease of Use

With the high price of precious metals and gems, you cannot afford the time or the potential inaccuracies of traditional methods to determine the value of items being bought, sold, or recycled. Using Thermo Scientific Niton x-ray fluorescence (XRF) analyzers, you can find out in just a few seconds the exact precious metal content in jewelry, coins, and other valuable products with assay-comparable accuracy.

That's all it takes – one simple trigger pull and almost instantly you will have an accurate purity analysis for on-the-spot sorting and valuation of all precious metals, as well as quantification of other desirable and undesirable elements.

Further, because of the value of these metals, it is also vital that any test performed is nondestructive so that material is not lost in the testing process. By utilizing our handheld XRF technology, analysis is not only fast and completely nondestructive, but there's also minimal to no sample preparation required.

Built for Your Requirements

Thermo Scientific Niton x-ray tube-based XRF analyzers are purpose-built for determining precious metal content and gemstone authenticity. When speed, accuracy, and reliability count, our combination of hardware, software, and direct industry experience helps meet your specific analytical requirements (see Figure 1). These remarkable instruments allow you to:

- Simultaneously measure the content of all precious metals, including gold (Au), silver (Ag), platinum (Pt), and palladium (Pd); in contrast to many XRF instruments, there is no need to manually change your calibration based on the metal you're analyzing.
- Along with precious metal content, precisely determine the presence and concentration of other trace alloying

elements and dangerous heavy elements such as lead (Pb) and cadmium (Cd).

- Immediately discover the presence of replica or altered gemstones such as cubic zirconia (CZ) and leaded glass-filled rubies.
- Capture images and focus in on small areas using our 3 mm small-spot feature.

Thermo Scientific Niton XRF Analyzers Benefits At-a-Glance

- Accurate – instant analysis for all precious metals and other elements of interest
- Simple and easy to use – little training necessary
- Instant results – get accurate results in just seconds
- Truly nondestructive test without the use of harsh acids or chemicals
- Fast, simple reporting and certificate generation



Jewelry analysis using a Thermo Scientific Niton XL2 analyzer.

The Instruments of Choice

The Niton® XL2 Series analyzer offers high performance and advanced electronics while maintaining the point-and-shoot simplicity that has been the hallmark of all of our XRF instruments. Sealed against moisture and dust with 100% embedded software tools, these analyzers are lightweight yet ruggedly built. Ergonomically designed and featuring daylight-readable icons on a fixed angle color, touch-screen display, the Niton XL2 incorporates customizable menus for ease of use, multi-language options, and an optional analytical range of more than 25 elements from sulfur to uranium.

Niton XL3t Series analyzers provide you with the simplicity and ruggedness of the Niton XL2 Series, along with enhanced features such as a tilt-screen display and our optional integrated CCD camera and small-spot feature. For the most demanding applications that require even greater sensitivity and detection limits, choose our Niton XL3t with geometrically optimized large area drift detector (GOLDD™) technology (CCD camera comes standard).

Want to move from the flexibility of a handheld unit to the stability of a bench or countertop system? Simply dock your analyzer into one of our optional test stands and operate it via the unit itself, or remotely through your PC.

With their many standard features and available options, Thermo Scientific Niton XRF analyzers stand far above the competition. Taking advantage of the standard Thermo Scientific Niton Data Transfer (NDT©) PC software suite to customize the instrument; you can print certificates of analysis personalized with your own company logo, generate custom reports, set user permissions, or remotely monitor, and operate the instrument handsfree from your PC. Integrated USB and Bluetooth™ communications provide direct data transfer to your PC or networked storage device, eliminating the cumbersome data synchronization procedures required by Windows® Mobile-based operating systems with their limitations and vulnerabilities.

Value and Performance

Thermo Scientific Niton alloy analyzers, from the pioneer in handheld XRF instrumentation, provide cost-effective high-speed performance, point-and-shoot simplicity, and the cutting-edge technology that you have come to expect from us. Discover how these industry-leading analyzers can help you with your precious metals and jewelry analysis needs and which model is right for you.

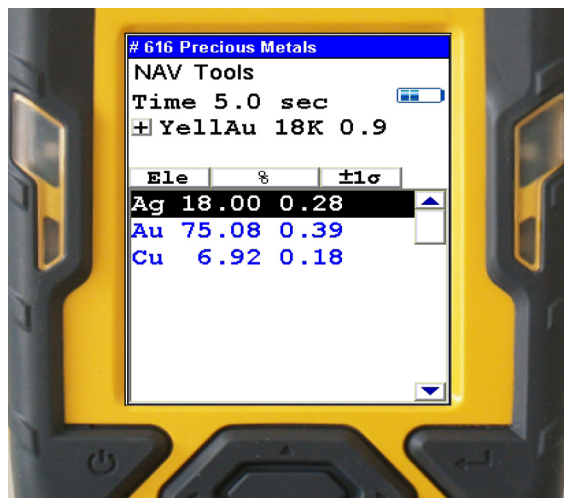
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Example of 18k gold analysis.

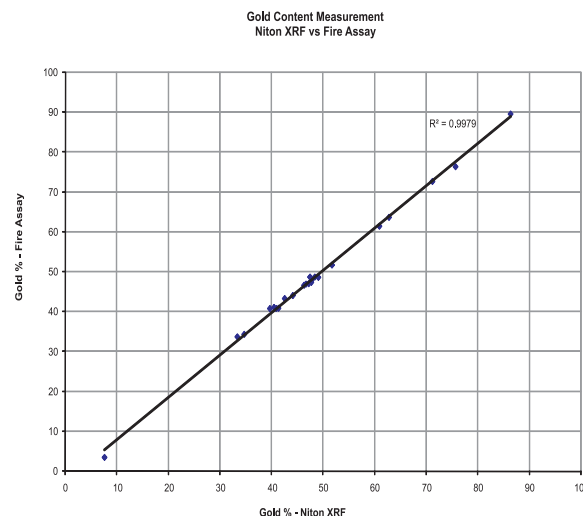


Figure 1. XRF vs. Assay

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