

Press Release

Beryllium Analysis in Beryllium Copper Alloy by WDXRF

The Woodlands, TX – November 27, 2012. Rigaku Corporation has published a new application report demonstrating the capabilities of the Rigaku ZSX Primus II wavelength dispersive X-ray fluorescence (WDXRF) spectrometer. Application Note XRF 5028 describes the analysis of beryllium (Be) in beryllium copper alloy and includes complete information about sample preparation, method calibration and repeatability.

Beryllium copper alloy has strength close to that of steel, and is the strongest among copper alloys. It has many uses, including the manufacture of springs, electric connectors, tools for use in environments with explosive vapors and gases, and musical instruments. Since characteristics and uses of beryllium copper alloys depend on the beryllium concentration, it is important to accurately determine the levels of beryllium in beryllium copper.

Because of the long wavelength of Be-K α , beryllium analysis requires high-power WDXRF spectrometers equipped with analyzing crystals with high reflectivity for Be-K α . The RX75 multilayer analyzer is a special synthetic analyzing crystal that enables the analytical performance.

In the described method, certified reference materials of beryllium copper alloy provided by CTIF (France) were used for calibration.

Measurements were performed on the ZSX Primus II with a 4 kW X-ray tube operating at 30 kV and 100 mA using the RX75 multilayer analyzer. The ZSX Primus II features an innovative optics-above configuration designed to eliminate beam path contamination, thereby increasing up time. The calibration accuracy obtained in the report shows performance and repeatability precise enough for daily analysis use.

A copy of this application report may be requested on Rigaku's official website at <http://www.rigaku.com/products/xrf/primus2/app5028>.

About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on general-purpose analytical instrumentation and the life sciences. With hundreds of major innovations to their credit, Rigaku companies are world leaders in X-ray spectrometry, diffraction, and optics, as well as small molecule and protein crystallography and semiconductor metrology. Today, Rigaku employs over 1,100 people in the manufacturing and support of its analytical equipment, which is used in more than 70 countries around the world supporting research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial communities.

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Rigaku ZSX Primus II
WDXRF Spectrometer