

# **X-Ray Fluorescence Spectrometry, a Quantitative Elemental Tool for Flyash Analysis**

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## **ABSTRACT**

Wavelength dispersive X-ray fluorescence spectrometry (XRF) is a very useful analytical technique for elemental analysis of flyash. X-rays generated from a target and directed onto a solid or liquid cause a quantum disturbance in the electron shells of the atoms. The re-fluoresced X-rays from the sample are diffracted by a crystal, much like a grating in optical emission spectroscopy. The X-rays, now *qualified* by wavelength, can be impinged upon detectors which will *quantify* the amount of re-fluoresced X-rays. Application of the ASTM D4326 XRF standard procedure for coal ash to flyash analysis is now an accepted procedure through the ASTM C9 committee for quality control purposes. The use of an XRF spectrometer to speed up and enhance routine elemental analysis of flyash by the use of specific analytical techniques will be discussed.