

## **CEMENT APPLICATIONS WITH HANDHELD XRF**

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With the addition of silicon drift detector technology to handheld x-ray fluorescence (XRF) it is now possible to measure lower atomic number elements (Mg, Al, Si, S) than with previous generation analyzers. This capability makes the use of handheld XRF analyzers of interest to the cement and industrial minerals industry. For example, regulation and homogenization of the raw cement feed material can result in significant fuel savings, while still keeping the free lime content of the clinker low. Use of handheld analyzers can give information on chemical composition, allowing more accurate control of homogenization of raw materials. Data will be presented from a Bruker S1 TURBO<sup>SD</sup> LE on samples from feed material, illustrating the capabilities as well as limitations of the instrument for use in assessing raw materials for kiln feed. Potential uses for handheld XRF in related applications will also be considered.