

## **ANALYSIS OF SODIUM AND SULFUR IN A PORTLAND CEMENT BY XRF WITH FUSED BEADS ON AN AUTOMATIC GAS FUSION MACHINE**

Michel Davidts, Lic.Sc.Chim.

XRF analysis is a major tool for routine analysis in the cement industry. The rapidity and accuracy of analytical results are an important factor of the choice of the sample preparation technique. Thanks to the simplicity of sample preparation by fusion beads, the demand for analysing more elements is more and more requested. The accurate determination of sulphur and sodium with fused beads is an important demand in cement routine analysis.

By means of an appropriate mix of prefused anhydrous of lithium tetraborate with lithium metaborate the determination of sodium and sulphur is perfectly reproducible and accurate. The use of an automatic gas fusion with a precise control of fusion temperature on each individual burners permits very accurate results on sodium and sulphur with a high sample throughput. The accuracy with this equipment and this method is also largely improved for the analysis of the major constituent such as calcium, silicon, iron.

This technique could also be applicable to various sample analysis such as sulphide, slag in steel industry and various application.