



FIRST Newsletter

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Elemental Analysis for Industrial Materials with the Benchtop S6 JAGUAR

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From tableware and construction materials, from industry refractory materials to high performance ceramics in electronics, non-metallic oxide materials have a wide usage. The performance of a furnace lining or a ceramic insulator strongly depends on the elemental composition. But also, the value of minerals and ores is determined by their elemental composition. This knowledge also helps to optimize the mining process and the mineral beneficiation.



The **S6 JAGUAR** is perfectly suited for grade control of commodities, such as iron, nickel or copper ores, as well as sands, feldspars or

limestone. 400 W power, high spectral resolution and optimal detection leads to high analytical precision and accuracy.

S6 JAGUAR: A Compact Instrument for the Industry

The S6 JAGUAR is the most powerful benchtop-WDXRF spectrometer. Software and hardware of the S6 JAGUAR are ideally configured to enable best-in-class results and optimal productivity for a multitude of industrial applications. Equipped with 400 W excitation power, the S6 JAGUAR offers outstanding

sensitivity for a wide range of elements (F to U). The optimized sample excitation – especially for light elements – at low voltage and full 400 W power results in a 3-fold intensity improvement when compared to conventional 200 W systems.



Purity Testing of Silica Sands

When analyzing silica sands, purity is vital for later use in float glass (heat insulation) for solar cells and wafer production in semicon fabs. The S6 JAGUAR answers these questions by delivering element

composition within minutes for light and heavy elements down to the lower ppm range. This lets you make a quick decision on whether a batch of silica sand can be used for special glasses or not. Detailed data you can find in our new [Lab Report XRF 178](#).



Quality Control of Limestone

Limestone is a key industrial mineral and widely used in glass, cement, ceramics, chemistry and pharma. Understanding the elemental composition and the precise amounts of minors and traces help

to sort the raw material for the later application,

whether it is used in plastics, pills or for cement and construction material. Further information you will find in our [Lab Report XRF 161](#).



Getting the Most Out of Your Ore

Grade control is vital in the ore business – the value mostly depends on the concentration of major elements, but also on specific penalty elements which can cause problems along the beneficiation process and

in the smelter. Accuracy and precision are key to the success; the analytical instrument must be able to handle all materials and requirements. The S6 JAGUAR runs on efficient power and combines compact size for small labs in the mine and performance for best data – including high spectral resolution for handling the line overlays which are

most likely to occur in metal ores. Find more interesting details in our [Lab Report XRF 149](#).



Power Your Process and Don't Stay Dark

Coal is widely used in thermal industrial processes, such as metal refining (steel, aluminum, etc.) and power generation. The ash concentration is vital to understand the material load in the furnaces and

will give information about the total amount of energy in the coal. Trace elements will be important to understand the impact on material (corrosion from Cl) and the environmental impact (S, hazardous elements). The S6 JAGUAR can be used to analyze the ash concentration and the amount of problematic elements. The [Lab Report XRF 151](#) contains more data about the coal application with S6 JAGUAR.