

Spectroscopy Sample Preparation

Spectroscopy sample preparation of metals and materials have become more and more important because of the rapid development and improvement of both software as well as OES and XRF devices during the past few years that shifts the detection limit for trace analyses. It is crucial to have the sample properly prepared. The sample needs to be both representative, homogeneous and with an even surface in order to eliminate factors that can influence the results.

Surface Grinders



Automatic Milling Machines



Pendulum Grinders



Optical emission spectrometry (OES) & X-Ray Fluorescence (XRF)

Optical emission spectrometry (OES) using arc and spark excitation is the preferred method to determine the chemical composition of metallic samples. This process is widely used in the metal making industries, including primary producers, foundries, die casters and manufacturing. Due to its rapid analysis time and accuracy, Arc/Spark OES systems (Bruker, ThermoFisher) are most effective in controlling the processing of alloys. This technique can be used for many aspects of the production cycle including in-coming inspection of materials, metal processing, quality control of semi-finished and finished goods and many other applications where a chemical composition of the metallic material is required. [X-Ray fluorescence](#) is one of the most versatile methods to determine elements in a sample. The material is exposed to x-rays that cause each element to emit its own unique fluorescent x-ray. The subsequent analysis of the results is based on comparisons to standard samples with given chemical composition.

The sample needs to be both representative, homogeneous and with an even surface in order to eliminate factors that can influence the results. For the preparation of solid metal samples Kemet offers manual and automatic sample preparation machines - from the small table-top disc surface grinder to automatic milling machine. With Kemet Sample Preparation Machines, you feel yourself ready for the analysis.

Kemet



YOUTUBE: <https://youtu.be/piB2Xy3-6cQ>