

What kind of spectrometer is best for cast steel



Summary of Content

Optical Emission Spectrometers (OES), particularly arc spark OES, are the preferred choice for accurate and rapid analysis of cast steel.

Why OES is Ideal for Cast Steel

Optical Emission Spectrometry (OES) is widely used in steel foundries and fabrication shops because it provides fast, precise, and non-destructive elemental analysis of ferrous alloys, including cast steel. OES works by applying a spark to the metal surface, exciting atoms to emit light at characteristic wavelengths. The spectrometer then measures these wavelengths to determine the concentration of elements such as carbon, manganese, silicon, chromium, nickel, molybdenum, and trace elements like niobium or copper. This ensures that the chemical composition meets stringent production standards.

Advantages of Arc Spark OES

- **High Accuracy and Precision:** Arc spark OES can detect a wide range of elements, including light elements like carbon, nitrogen, and oxygen, which are critical in cast steel quality.
- **Rapid Results:** Analysis is completed in seconds, allowing real-time quality control during casting, melting, or post-processing.
- **Non-Destructive Testing:** The method leaves the part largely intact, which is essential for expensive or large castings.

Article Content

SPECTROMAXx Metal Analyzer | SPECTRO Analytical Instruments

The SPECTROMAXx ARC/SPARK OES analyzer delivers fast, accurate elemental analysis in metal producing and fabricating

Spectrochemical Analysis | Metal Casting Resources

Spectrometers are often the instrument of choice for foundry metal analysis as they require only minimal intervention

Spectrometers for Steel Testing in Steel Industry Plants & Foundries

The Metavision range of OES offers a complete solution for steel testing, including top-end models for primary OES

Spectro Analysis and Metal Detection | Cast Steel Products

CSP utilizes Optical emission spectrometers (OES or spark discharge spectrometers), to evaluate metals to determine the chemical

Understanding Spectrometers: The Silent Guardians of Metal Quality

Mobile and handheld spectrometers have transformed the scrap metal industry. What once required visual estimation

What Does a Spectrometer Do in Metal Fabrication?

Spectrometers are essential in metal fabrication for analyzing chemical composition, improving casting quality, and

How to Choose the Right Metal Spectrometer for Your Foundry or Steel

Buying a metal spectrometer is not a decision you make often — most foundries and steel plants use the same system

A Guide to Perfect OES Carbon Analysis

Optical emission spectrometry (OES) is the perfect solution for analyzing elements at low limits of detection like carbon, boron, and

Metal analysis spectrometer

Find your metal analysis spectrometer easily amongst the 40 products from the leading brands (Thermo Fisher, Malvern Panalytical,

Precision Castings Spectro Analysis

Our two optical emission spectrometers can measure the elemental composition of any low alloy, high alloy, stainless steel, tool

Contact Us

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