

Spectral Analysis Service



Spectral analysis is pivotal in determining the chemical composition of [metallic materials](#), enabling precise identification and verification. At Applus+ Laboratories, we specialise in comprehensive spectral analysis services that ensure the traceability and integrity of your materials. By preventing material mix-ups, we help you avoid significant damage, especially in sensitive and security-relevant areas.

What Is Spectral Analysis?

Spectral analysis involves examining the optical emission spectra of materials to determine their chemical composition. By analysing the wavelengths of light emitted by excited atoms in a sample, we can identify the elements present and their concentrations. This method is crucial for **Positive Material Identification (PMI)** tests, which are vital for ensuring material traceability.

Material mix-ups can lead to considerable damage and must be ruled out unconditionally, particularly in industries where safety and compliance are paramount. Spectral analysis helps prevent these issues by providing accurate chemical composition data, ensuring that materials meet required specifications and standards.

What Spectral Analysis Do We Perform?

We offer a comprehensive range of spectral analysis services tailored to your specific needs:

- **Chemical Composition Determination:** Accurately determining the chemical makeup of metallic materials to ensure they meet the necessary specifications.
- **Positive Material Identification (PMI) Tests:** Verifying and validating the materials used in your products, which is crucial for traceability and quality assurance.

- **Inspections of Incoming and Outgoing Materials:** Conducting chemical analysis on both incoming raw materials and outgoing finished products to ensure consistency and compliance throughout your supply chain.

Which Materials Do We Analyse In-House?

Our in-house laboratory is equipped to analyse a wide range of base materials with high accuracy across nearly all concentration ranges. The materials we analyse include:

- Iron
- Aluminium
- Nickel
- Copper
- Titanium
- Cobalt
- Magnesium
- Zinc

What Materials Do We Analyse On-Site?

With our mobile spectrometers, we can perform on-site analysis at your location, providing flexibility and convenience. The base materials we analyse in our mobile laboratories include:

- Iron
- Aluminium
- Nickel
- Copper

What Spectral Analysis Equipment Do We Have?

To deliver precise and reliable results, we utilise advanced spectral analysis equipment:

- **Three Stationary Spectrometers:** Located in our state-of-the-art laboratory, capable of analysing a broad range of materials with high precision.
- **Two Mobile Spectrometers:** Allowing us to perform optical emission spectroscopy (OES) at your premises, providing on-the-spot analysis without the need to send samples to a lab.

All our spectrometers operate using the **Optical Emission Spectroscopy (OES)** method, renowned for its accuracy and efficiency in determining the chemical composition of metallic materials. This technology enables us to perform chemical analyses both in our laboratory and at the client's location.

Why Choose Applus+ Laboratories for Spectral Analysis?

Selecting [Applus+ Laboratories](#) for your spectral analysis needs means partnering with a leader in [material testing and analysis](#). Here's why you should choose us:

- **Expertise and Experience:** Our team of specialists brings extensive knowledge in spectral analysis and material testing, ensuring accurate and reliable results.
- **Comprehensive Services:** We offer a full spectrum of spectral analysis services, covering a wide range of materials and tailored to meet your specific requirements.
- **Advanced Equipment:** Our investment in both stationary and mobile spectrometers equipped with OES technology ensures we can meet your analysis needs both in our laboratory and at your site.
- **High Accuracy Across Concentration Ranges:** With a vast array of analytical programs, we can determine nearly all concentration ranges with high precision, ensuring the integrity of your materials.
- **On-Site Analysis Capability:** Our mobile laboratories provide the flexibility to perform analyses at your location, minimising downtime and accelerating the testing process.
- **Commitment to Quality and Safety:** We understand the critical importance of material traceability and compliance, especially in sensitive and security-relevant industries. Our services help you prevent material mix-ups and ensure adherence to industry standards.

Choose Applus+ Laboratories as your trusted partner in spectral analysis. Our high-quality services and expert guidance are designed to support your material verification needs with confidence and precision.