

A CASE STUDY FROM
SPECTRO ANALYTICAL INSTRUMENTS

Maoming Weite Trusts SPECTROTEST to Accurately Analyze Metals On-Site

SPECTROTEST Advantages for Maoming Weite

- ▶ Advanced arc/spark OES mobile metal analyzer for precise analysis without compromise
- ▶ Precise measurement of challenging elements such as carbon, phosphorus, and sulfur in steel
- ▶ Unique iCAL 2.0 diagnostics ensure highest stability despite most temperature/pressure shifts
- ▶ iCAL 2.0 reduces maintenance times/costs. Typical single-sample, 5-minute standardization
- ▶ Fast warm-up and operation
- ▶ Ensured ease of use



The Challenge

Based in Guangdong, Maoming Weite Testing Technology is among the largest third-party industrial testing firms in South China. The company's 150 employees inspect and test equipment and metal tubing for numerous petrochemical and chemical plants.

A mobile metal analyzer is essential for this work, and Maoming Weite's first such instrument dates from 2003. However, as the firm's business increased, by 2012 it became obvious that this legacy model no longer matched the capabilities required for on-site measurement of large volumes of tubing, valves, and flanges. A main drawback: its inability to measure carbon (C), phosphorus (P), and sulfur (S) in steel. In addition, the instrument's limited speed and productivity prevented the company from completing some projects in a timely manner.

"Our customers expect us to be able to measure metals on-site — quickly and precisely — and ensure the quality of their materials," says Maoming Weite's lab manager. "So a new mobile spectrometer was the only way to solve our problem."

Before finalizing this critical purchase, Maoming Weite planners conducted extensive market research. They consulted analytical technology experts, then organized product demonstrations of several mobile metal analyzers, and compared the competitors in detail.



The Solution

A clear choice emerged: the SPECTROTEST mobile metal analyzer from SPECTRO.

“We chose SPECTROTEST because it simply has the best precision and accuracy, especially for on-site use,” states the lab manager.

This mobile arc/spark *optical emission spectrometer (OES)* is ideal for many applications in the metal producing, processing, and recycling industries. SPECTROTEST demonstrates superior performance especially when exact metal analysis is required; when materials are difficult to identify; and/or when a large number of samples must be tested.

Users perform a single-sample standardization (in less than 5 minutes) at the start of the day’s testing. From then on, the instrument’s proprietary iCAL diagnostics help maintain the same standardization — regardless of most temperature shifts.

SPECTROTEST’s advanced arc/spark design offers many ergonomic advantages for safe and fatigue-free operation on-site. Its light, slender probe quickly switches between arc and spark excitation. A probe with integrated UV optic is available for special measurement applications; it can also be utilized with arc excitation.

The Results

With SPECTROTEST, Maoming Weite has been able to fully satisfy its customers’ stringent requirements. “We use SPECTROTEST for quality testing of all our customers’ materials — especially the concentrations of carbon, phosphorus, and sulfur, as well as other elements in steel,” says the lab manager.

Efficiency and productivity are critical. “The analyzer is normally in use 8 hours a day, which means about 400 analyses daily. And iCAL is especially helpful on-site. It allows us to finish instrument preparation within a short time; with iCAL; it’s much easier to do recalibration. Flushing the optical system and warming up the instrument take not more than 30 minutes.”

Counterfeiting of incoming metal grades and materials has long been an important supply chain concern. SPECTROTEST allows Maoming Weite to precisely identify offending parts for removal from customers’ production processes.

To meet still-growing demand, Maoming Weite purchased an additional SPECTROTEST analyzer in early 2021. “I think the main advantage of SPECTROTEST is the precision,” says the lab manager. “We believe it’s simply more precise than any other mobile metal analyzer. And we can rely on it to measure a wide range of elements at low concentration levels — quickly, easily, and accurately. This gives us the confidence to finish each job smoothly.”

“Overall, I am very satisfied with the performance. We would certainly buy another SPECTRO instrument if needed. I definitely recommend it!”

About Maoming Weite

Maoming Weite Testing Technology is the restructured successor to the Inspection Center of Sinopec Maoming Company, which was founded in 2006. The firm’s primary services are nondestructive testing (NDT) of pressure vessels and tubing, as well as physical and chemical testing of metal materials. A high-technology enterprise with class A certification, it’s one of the leading third-party testing concerns in South China.

About SPECTRO

SPECTRO is one of the world’s leading suppliers of analytical instruments. Its advanced analyzers use optical emission spectrometry (ICP-OES, arc/spark OES), and X-ray fluorescence spectrometry (XRF) technologies in the elemental analysis of materials for industry, research, and academia.



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