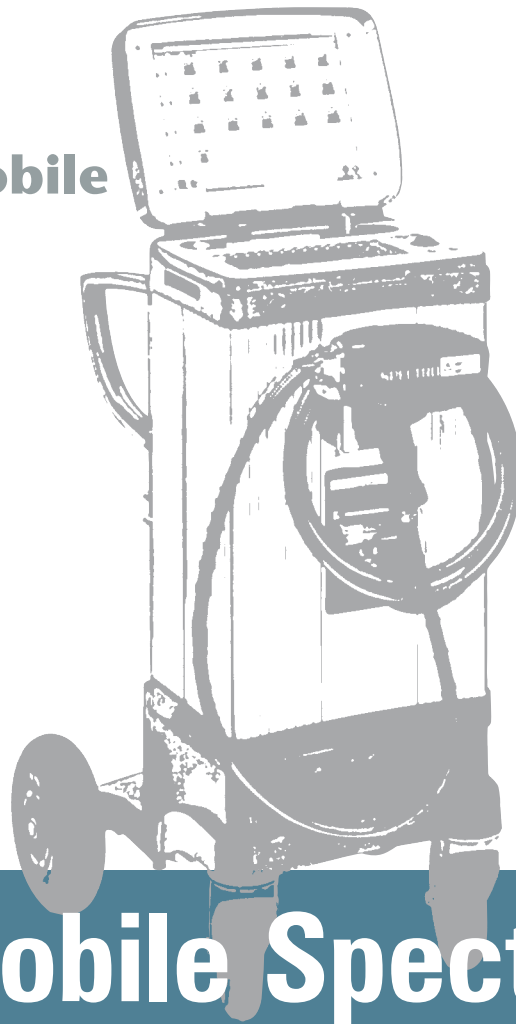


Onsite Metal Analysis with Mobile Spectrometers



Mobile Spectrometers



**The SPECTRO Metal Database
Comprehensive material
database with thousands of
materials designations from
all major organizations and
industrial associations.**

**The database provides the
chemical composition, standard
reference, application guidelines,
mechanical properties, heat
treatment details, properties at
elevated temperatures, fatigue
properties, and more. The
database provides a function for
the creation and management of
grade libraries for the
SPECTRO iSORT, SPECTRO xSORT
and SPECTROTEST.**



**SPECTRO Metal Database
for ferrous and Non ferrous
materials**

Mobile Metal Analyzers have been used for over 30 years to examine and assess metals onsite. In the early days these onsite - 100 kilogram plus - analyzers were all relatively large, bulky and difficult to maneuver. Today's onsite metal analyzers are compact, easy-to-use and range from handheld X-ray fluorescence systems to highly mobile arc/spark optical emission spectrometers.

The rapid development in instrument technology has led to significant advances in the application possibilities.

As a technological leader, SPECTRO has decidedly shaped and formed this development from the start. As the worldwide market leader in this area, SPECTRO is today the only company to offer a complete range of products for the many different tasks in onsite metal analysis.

Mobile Spectrometers



The current range of applications for mobile metal analyzers far exceeds the original, yet still critical, steel mill sorting requirements. Demanding analytical tasks such as the laboratory-like analysis of complex alloys or the detection of nitrogen in duplex steels highlight the modern capabilities of on-site metal analysis.

Complete Family of Products for Optimal Analytical Solutions

SPECTRO offers a complete family of products for onsite metal analysis. This allows the optimum instrument selection for the individual testing requirements. The right instrument delivers the optimum results. All of SPECTRO's onsite metal analyzers share important traits like; a robust

and rugged design, best-of-class analytical performance and intuitive operation.

The Specialist

The SPECTRO iSORT is a flexible handheld spectrometer mainly suited to grade identification of low alloy steel and non-ferrous metals. It consists of the easy to handle sample probe and the connected spectrometer unit with an exchangeable rechargeable battery that is carried with a shoulder belt or in a backpack. Operation is accordingly simple.

The Multifaceted

The SPECTRO xSORT is a compact energy dispersive X-ray fluorescence spectrometer for continuous, fatigue-free handheld operation

for the analysis and sorting of all – but especially high – alloy metals. It utilizes innovative high-tech components for excitation and detection. These form the basis for the unique precision, speed and safety of this system.

The Standard

The SPECTROTEST is a powerful mobile metal analyzer for use in the metal producing, metal processing and metal recycling industries. With innovative technology it is able to tackle every analytical challenge. The heart of the SPECTROTEST consists of the plasma generator, special optic, the high performance readout system and the ICAL logic system with its leading innovations; making this the most powerful spectrometer in its class.

- **Incoming inspection in metal processing operations**
- **Testing of semi-finished and finished products in production, the warehouse and the shipping department**
- **Grade identification of many different metals and alloys in the scrap yard**
- **Laboratory-like analysis of special materials**
- **Control of the materials used in chemical and petrochemical plants**
- **Integration in fully automated production processes for mass and serial production**



SPECTRO iSORT

- **Battery operated OES-handheld spectrometer for sorting and grade identification of low alloy steels and non-ferrous metals**
- **High performance arc excitation**
- **ICAL logic system for optimal instrument operation and control**
- **Carbon in low alloy steel from 1000 ppm**

SPECTRO xSORT

- **Battery operated XRF-handheld spectrometer for the analysis and identification of alloyed metals and precious metals**
- **Complete analysis in 2 s, grade recognition including light elements in additional 10 s**
- **Flexible operation with integrated computer using Windows Mobile operating system**
- **High safety standard with integrated shutter (simultaneously ICAL sample) and other blocking functions**

SPECTROTEST

- **Market leading OES-spectrometer – Standard for onsite metal analysis**
- **Arc and spark excitation; simple changeover without tools**
- **ICAL logic system for optimal instrument operation and control**
- **Carbon determination in arc and spark**
- **Analysis of C, P, S, B and additional elements with special UV optic**
- **Identification of duplex steels using the nitrogen content**



SPECTROTEST



SPECTRO xSORT



SPECTRO iSORT

Typical Applications

Requirement	SPECTRO iSORT	SPECTRO xSORT	SPECTROTEST
Battery operation	✓	✓	✓
Mains power operation		✓	✓
Extendable calibration modules, onsite	✓	✓	✓
Identification of low alloy steel, using C	✓		✓
No change in the surface of the sample by the measuring process (no burn spot) on finished products allowed		✓	
Precise analysis of the elements P, S, N, e.g., in finished steel products			✓
Precise analysis of stainless steel in the manufacturing process		✓	✓
Precise analysis of Ni alloys in the manufacturing process		✓	✓
Precise analysis of Al, Ti, Mg, and Zn alloys			✓
Process control in production			✓
Identification of micro alloys (low alloy steel)			✓
High sample throughput > 1000 samples per shift		✓	✓
Measurement of small parts (<5 mm) e.g., screws, pins	+	+++	+
Identification of precious metal		✓	
PGM applications (Platinum Group Metals)		✓	
Analysis of trace elements in various matrices			✓
Metal identification and analysis in metal recycling	+	+++	++
Metal analysis as a service provider	✓	✓	✓
PMI applications in protected areas	+	+++	+
Metal analyzer integrated in automated systems			✓

✓ = suitable instrument +++ = excellently suited ++ = well suited + = less suited

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