SPECTRO
AMETEK

SPECTROTEST TXC35

MOBILE METAL ANALYZER



Highest Analytical Performance and
Maximum Sample Throughput

Mobile Metal Analyzer

SPECTROTEST

The verification or identification of metal, based on defined chemical composition specifications (grades), has established itself as a standard process in the repertoire of quality control measures at innumerable companies in the metal producing, processing and recycling industries. The use of an onsite metal analyzer is a highly reliable method to prevent grade mix-ups of incoming materials on the production floor, at the shipping dock or when sorting metals for value optimized recycling. The SPECTROTEST is ideal for these applications. It flaunts its superior performance especially when exact analyses are required, when materials are difficult to identify or when there is a large number of samples to be tested.





BUILT FOR HARSH ENVIRONMENTS, DELIVERS INDUSTRY LEADING RESULTS WITH POINT-AND-SHOOT EASE

The complex instrument design offers many ergonomic advantages for safe and fatigue-free onsite operation. The rugged trolley is a stable platform for SPECTROTEST and allows easy movement along uneven terrain. SPECTROTEST comes with a 4 m (13 ft.), or optional 8 m (26 ft.), quick change sample probe – for a wider area of operation, without the need to move the spectrometer. The light, thin probe is quickly converted between arc excitation and spark excitation (under a protective argon atmosphere). A probe with an integrated UV optic is available for certain applications; it can also be utilized with arc excitation.

HIGH PERFORMANCE ANALYSIS

The SPECTROTEST is even able to identify low alloy steel with the carbon content during the rapid arc excitation mode. In spark mode, the analysis of carbon, phosphorous and sulfur belong to the possible applications in addition to the identification of duplex steels using the nitrogen content.

INDUSTRY UNIQUE STANDARDIZATION 2.0

The proven iCAL (Intelligent Calibration Logic) logic system monitors the correct state of the measuring system independently from external influences. And now iCAL 2.0 helps maintain the same standardization — regardless of most temperature shifts!

RESULTS WHERE YOU NEED THEM

An app enables display of the measuring screen on a PC monitor, tablet or smartphone. Measurement results can be simultaneously observed in the laboratory and on-site.

The SPECTROTEST at a Glance



Large 15″ display

Shelf for iCAL sample: Unique one sample standardization of the entire system

Integrated PC with LAN, USB, VGA and WLAN connectivity

Robust lightweight transport trolley

Instrument software with complete operator guidance

Pre-installed materials library with common alloys that can be extended by the customer at any time

Optional:
SPECTRO Metal Database

Optical system with probably the widest wavelength range (174 nm - 670 nm), all elements necessary for complete metal analysis available

Pluggable probe for shortest measuring times beginning with 2 s in arc mode and 5 s in spark mode (argon atmosphere)



Electrode/adapter changeable without tools

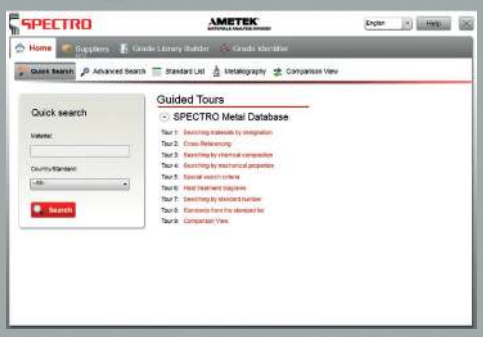
Efficient plasma generator (high sample throughput also during battery operation)

Large wheels and high clearance for easy onsite maneuverability, locking brake

Battery drawer; up to 800 measurements on a single charge



UV test probe (arc/spark operation)

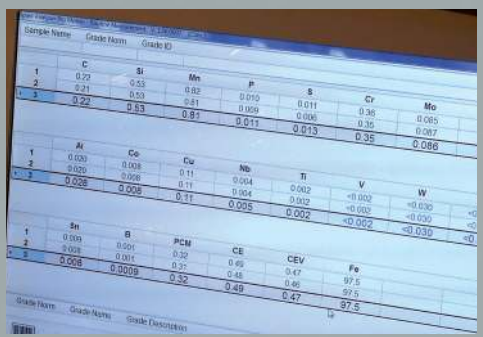


SPECTRO Metal Database

This optional database comes equipped with prepackaged libraries, and can easily accommodate new alloys or materials with the Grade Library Builder, allowing the identification of virtually any common commercial metal alloy.



Freely accessible argon bottle for rapid replacement



SPECTRO Software

The SPECTROTEST software aligns itself automatically with the operator's selected metal testing task, displaying all relevant data on one screen along with the corresponding functions. The automatic program finder (APF) and the optional APF+ ensure that the optimal test method is automatically selected to achieve the best results. Stored results can easily be processed with the Result Manager.

SPECTROTEST



TYPICAL RESULTS OBTAINED WITH SPECTROTEST (SPARK MODE)

Type 316 stainless steels are widely used in the construction of petrochemical plants. All 316 steel grades contain chromium; however, their mechanical strength and durability also depend on their carbon content. Type 316 stainless steel contains up to 0.07% carbon, whereas 316L contains a maximum of only 0.03%. This small absolute difference is enough to give the alloys clearly different intergranular corrosion behavior. Welded seams formed with low-carbon 316L are more durable than welds with the higher-carbon alloy. SPECTROTEST can easily analyze such low levels of carbon.

Nitrogen is more difficult to analyze. Austenitic (duplex) steels contain nitrogen, usually ranging from 0.10% to 0.22%. Nitrogen stabilizes the austenitic structure without decreasing durability. In high-alloy, chemically resistant steels, it also increases resistance to corrosion, especially pitting corrosion. For example, the X2CrNiMoN 22-5-3 (1.4462) grade has found wide acceptance. SPECTROTEST is able to meet the challenge: It can conduct on-site identification of austenitic (duplex) steels alloyed with nitrogen.

AISI 316L			
Element	Measurement time: 10 seconds		
	Certified Value [%]	Average Value [%]	2 * SD [%]
C	0.019	0.022	0.001
Si	0.44	0.46	0.004
Mn	1.21	1.18	0.012
P	0.026	0.023	0.003
S	0.020	0.023	0.003
Cr	17.36	17.05	0.047
Mo	2.11	2.04	0.001
Ni	11.86	12.09	0.082
V	0.05	0.06	0.001
Cu	0.09	0.11	0.004

Duplex Alloy 1.4462 (X2CrNiMoN 22-5-3)			
Element	Measurement time: 10 seconds		
	Certified Value [%]	Average Value [%]	2 * SD [%]
N	0.103	0.139	0.019
C	0.013	0.019	0.001
Si	0.47	0.55	0.011
Mn	1.74	1.62	0.016
P	0.023	0.014	0.004
S	0.002	<0.002	
Cr	22.41	21.64	0.046
Mo	2.89	2.64	0.020
Ni	6.01	5.88	0.076
V	0.15	0.12	0.001

SEE THE LEADING LINE OF METALS ANALYZERS

SPECTROTEST represents the flagship of the mobile product line of SPECTRO's comprehensive suite of metals analysis instruments. This product line also includes the smaller lightweight SPECTROPORT OES analyzer and the SPECTRO xSORT XRF handheld.

These are backed up by a trio of advanced stationary metal spectrometers: our flagship SPECTROLAB; powerful SPECTROMAXx; and affordable, entry-level SPECTROCHECK analyzers. Whatever your choice, you can rely on quality analyzers from SPECTRO: the recognized global leader in metals analysis.

SPECTROTEST: SERVICE AND SUPPORT

So that SPECTROTEST instruments continue to meet and exceed customer availability goals, SPECTRO offers AMECARE Performance Services. The program fields more than 200 service engineers in more than 50 countries. The high-value, customized services they deliver help ensure optimum performance and the longest possible equipment life. Available AMECARE support includes protective maintenance programs, applications solutions, expert consultation, and targeted training.

AMECARE PERFORMANCE SERVICES AMETEK

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