**АНГЛИЙСКИЙ**

Revolutionary RUSSIAN development - portable laser analyzer ELANIK - the

first handheld laser analyzer of metals and alloys, capable of measuring

carbon concentration without the use of an inert gas. The accuracy of

the analysis goes up to 0.01% in carbon steel directly in open air

without using argon gas. The principle of operation of the portable

ELANIK analyzer is based on the method of laser-induced breakdown

spectroscopy (LIBS), which allows the analysis of all elements,

including light elements (Li, Be, B, C, etc.), without any complicated

sample preparation on any material.

The merits of using \*metals laser analyzer Elanik:\*

\* Conducting metals and alloys analysis in open air without using

inert gas (no more need for replaceable cartridges with argon gas),

which lets you save up to 10 000 USD of additional costs per year

\* A built-in video camera - convenient for analyzing a specific place

on the sample. The built-in camera is more reminiscent of a

microscope - an incredibly high resolution with sides of 200

micrometers allows you to see the surface of the test sample in the

smallest details and select the optimal area for the “shot”

\* Ease of use - the elemental composition gets displayed on the screen

as the final result of the analysis of metal. Does not require

training and knowledge in the field of spectroscopy (does not

require prior training of personnel)

\* An automatic determination of an alloy grade according to the

analysis results

\* An ability to measure small samples: the analysis area is less than

30 micrometers

\* High reliability - no parts that require periodic replacement or

maintenance

\* The ability to automatically average several measurements (standard

deviation) allows the laser analyzer of metals Elanik to increase

the accuracy of the results and to avoid the influence of uneven

distribution of elements. It is possible to analyze from 1 to 20

points on a sample. The standard deviation calculation is based on

all of the measurements (at 4 points of a shot) and on a maximum of

16 measurements (at 20 points of a shot). At 5 points of a shot (the

standard mode that is recommended by us), the standard deviation

calculation is based on 3 points (2 extreme measurements are

discarded by the program)

\* Laser surface cleaning - the automatic sample preparation in many

cases eliminates the need for a cleaning tool

\* Saving measurements data in the device’s internal memory

\* The weight of the laser analyzer of metals Elanik with installed

batteries is 2.5 kg. (5.5 lb)

\*Laser analyzer of metals Elanik\* is indispensable for welding and heat

treatment, the inspection of steel and alloys, its usage in warehouses,

for the express analysis of building structures, pipelines, etc.:

1. The determination of сarbon [C] in carbon and low alloy steel with a

lower detection limit of 0.01% (generally, a detection limit of at

least 0.03% is sufficient for carbon steel)

2. A wide range of determinable elements in metals, such as Li, Be, B,

C - which are generally impossible to determine when analyzed by XRF

3. Elanik's work speed - the test takes about 5 seconds. When

determining carbon - no more than 15 seconds

4. High accuracy and low detection limits for elements such as Mg and Al

5. Safety - laser analyzer of metals Elanik does not have ionizing

radiation, like XRF

6. High working capacity - at least 10,000 hours of continuous

operation. In practice, this means that the analyzer of metals

Elanik is able to conduct more than 2 million analyzes for carbon!

7. Low cost of maintenance and ownership - the Elanik laser analyzer

has no consumables! You will only have to buy alcohol wipes from the

nearest pharmacy from time to time to wipe the spectrometer's

protective window. By the way, this window is made in such a way

that it cannot be broken - it is reliably protected by a steel frame

\*Laser analyzer of metals Elanik\* allows you to measure carbon

concentration (up to 0.01%) in low alloy steel directly in open air

(without using an inert gas) and distinguish steel grades that differ

only in carbon - something that up to this date is still impossible for

any of the handheld analyzers.

List of basics in the basic configuration List of the Elanik laser

analyzer measured elements for each basis

Fe C, Al, Si, Ti, V, Cr, Mn, Co, Ni, Cu, Nb, Mo, W, Mg (standard item

set) (Zr - done per client's request)

Al Be, Mg, Si, Ti, Cr, Mn, Fe, Ni, Cu, Zn, Zr, Sn, Sb, Pb (standard

item set) (Li, B, Ca, Cd, Co, V, Sc - done per client's request)

Cu Be, Mg, Al, Si, Ti, Cr, Mn, Fe, Co, Ni, Zn, Zr, Sn, Pb (standard

item set)

Ti Al, Si, V, Cr, Mn, Fe, Zr, Mo, Sn (standard item set) (C – done per

client's request)

Ni Mg, Al, Si, Ti, V, Cr, Mn, Fe, Co, Cu, Nb, Mo (standard item set)

Extra Other additional basics are possible

Custom Plus Additional calibrations could be ordered by the client for

their unique task

An important advantage of the laser analyzer Elanik is the possibility

of conducting an express assessment of CE “in the field”, right at the

place of welding and the erection of metal structures, pipelines, etc.

Dearden and O-Nile formula recommended by the International Welding

Institute (IIW) is used by default and the following scale for

evaluating weldability:

CE (IIW) Weldability Marker color on Elanik display

0 – 0.35 Excellent green

0.36 – 0.40 very good light green

0.41 – 0.45 Good yellow

0.46 – 0.50 Satisfactory orange

0.50 Bad red

\*Weldability\* is one of the most important properties of structural

steel, since most metal structures are welded. The chemical composition

of steel has a significant effect on its weldability. One of the most

important technological indicators of weldability is the \*carbon

equivalent (CE)\*. It allows an evaluation of the combined effect of the

weldability of carbon and other elements contained in steel, and helps

to choose the optimal welding mode and technology.

Since laser analyzer of metals Elanik carries out multielement

quantitative analysis (including C, Mn, Cr, Si, Mo, V, Cu, Ni, etc.),

for the convenience of our customers who use this metal analyzer, we

have introduced the calculation of the carbon equivalent for low and

medium alloy steel (the calculation formula can be chosen when

ordering). CE is displayed on the device screen simultaneously with the

calculation of the concentration of chemical elements and allows you to

immediately see the assessment of weldability of steel.

Name Quantity

Laser-induced emission spectrometer «Elanik» 1 unit

Lithium-ion battery of type 26650 6 units (set)

AC adapter with a power cord 1 unit

Stylus pen 1 unit

Recalibration sample 2 units

Charger 2 units

Shockproof shipping case 1 unit

USB flash drive 1 unit

Protective gloves 1 pair

Goggles 1 unit

Thermal case (when ordering as an additional option) 1 unit

Support strap (when ordering as an additional option) 1 unit