INSIZE

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XRF-B210
X RAY FLUORESCENCE SPECTROMETER
OPERATION MANUAL

INSIZE

Security Guidance

This manual including the precautions that should be observed, in order to ensure personal safety and equipment from damage. These considerations are used respectively, obvious warning USES [note], [tip], users in the process of reading, please pay attention to the Suggestions.

Pay attention to these followings:

1. XRF-B210 is characteristic by analyzing the samples X ray method to qualitative quantitative analysis instrument. To human safety and the normal use of equipment customers are strictly prohibited to remove the instrument secretly, otherwise, the company will not be warranty.

2. In the maintenance of different parts, please be sure to cut off the main power supply.

3. The instrument has carried on the strict inspection before leaving the factory, allows users to rest assured to use, but after all, hard to avoid has a problem, in this, please be understanding; If in the process of use of abnormal, please contact us, we will solve for you as soon as possible.

4. The instrument factory is equipped with computer and printer, in the event of failure caused by instrument can't use, is not in the company within the service, users directly to computer manufacturers or printer, please contact maintenance, please be understanding here.

5. The instrument shall be operated with the specialized personnel, other irrelevant personnel shall not move or operate, otherwise the consequence is proud.

Preface

With the progress of society, Precision instrument industry has the high speed development. X-ray fluorescence spectrometer, as is a new nondestructive testing instrument is widely used in metallurgy, geology, chemical industry, machinery, petroleum, building materials industries. Also widely used in food detection, the RoHS testing, test, zero halogen element composition detection, harmful element analysis, analysis of alloy coating and the determination of the thickness of the metal film, etc.

Our company 's XRF-B210 analyzer is better to cope with alloy and coating analysis can satisfy the customer at the same time on the analysis of the RoHS and halogen free environmental directives, equipped with high-performance Si pin detector and digital multi-channel analysis system, at the same time as a result of the vacuum type test, for testing the light effect is greatly increased, expanded the scope element test and test accuracy, especially increases the content of alloy elements in low light, the detection effect of other elements in the test of RoHS directive of repeatability and stability also has improved significantly.

Split open a case to check

Check boxes if there are any destruction in transit, confirmed after no abnormalities, open the packing cases, control instrument packing list one by one, check the host, accessories, spare parts, certificate of approval, such as whether is complete, if you find any missing or damaged, please contact our company immediately. Don't return the instrument without our permission.

The instrument connection

Place the XRF-B210 on the table, according to the requirements shown in figure 2-1 to instrument all wiring port connected to the power supply, vacuum pump and PC USB one by one in place. Open the instrument power switch and PC power supplies after the connection is verified, instruments at the back of the fan rotation and positive power indicator.
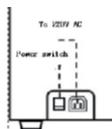

To 220V AC

Power switch

To PC USB
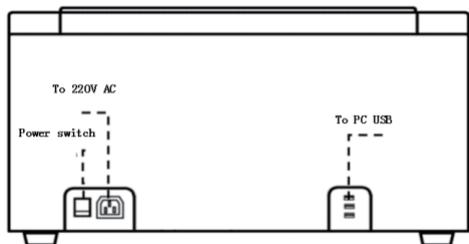
Figure 2-1

ElemAnalyse

1 Turn on the power switch of the instrument and computer
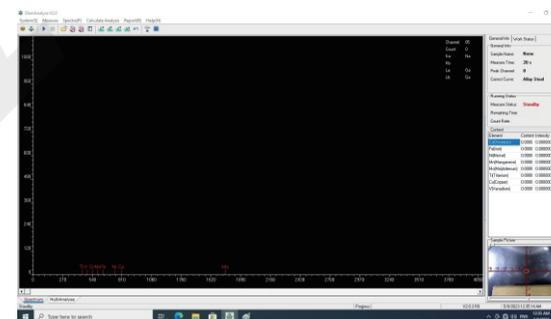

To 220V AC

Power switch

Power switch behind the instrument
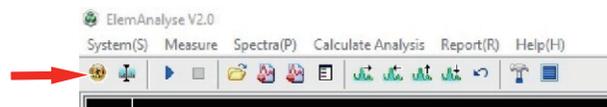
2 Open software

Find the following icon on the computer desktop, right-click the mouse, and then click Open to open the software.

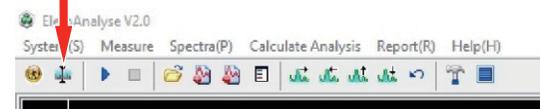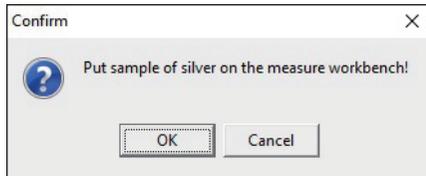SZElemAna...

3 The software displays as follows

4 Warm up

Warming up is the first step of starting up every day to ensure that the device is in a normal operating state,
Starting the measurement without preheating will seriously damage the service life of the equipment.

5 Initialize

Confirm ✕

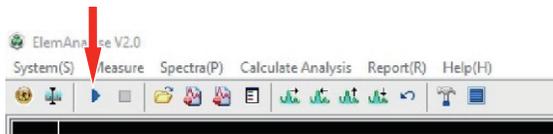Put sample of silver on the measure workbench!

OK   Cancel

Click the initialization button on the software, and the silver calibration interface will appear.

Place the Ag sheet in the sample chamber of the instrument, and then click the OK button until the initialization is successful.
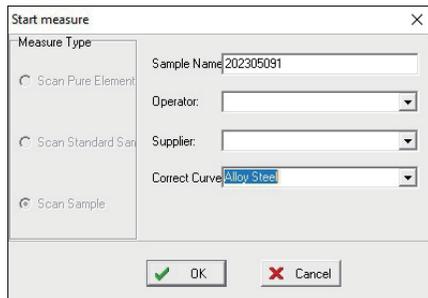
The purpose of instrument initialization is to align the element peak channel, and instrument initialization is an important step before testing the sample. If this step is ignored, it will seriously affect the measurement results

6 Measurement sample

Click on the measurement sample button on the software, and the following interface will pop up. Enter the sample name (spectral name) and sample number.
Note: The sample name and sample number cannot have special characters.

Start measure ✕

Measure Type
Scan Pure Element
Scan Standard San
Scan Sample

Sample Name 202305091
Operator:
Supplier:
Correct Curve Alloy Steel

✔ OK   ✗ Cancel

Select a calibration curve and select the corresponding calibration curve based on the type of sample being measured. The commonly used calibration curves are as follows:

Stainless steel: Used for testing the composition analysis of iron and chromium nickel based iron alloys (such as 304, 316, 301, 201, 321, etc.)

Alloy steel: Used for analyzing the composition of iron based ferroalloy samples

Brass: Used for analyzing the composition of copper alloy samples mainly composed of copper and zinc
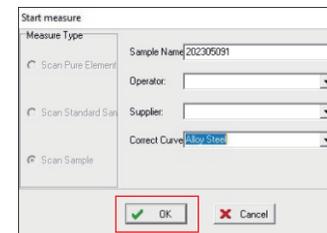
Tin bronze: Used for analyzing the composition of copper alloy samples with tin added in pure copper

Red copper: Used for analyzing the composition of pure copper samples (such as T1, T2, T3, T4, T5, etc.)

Aluminum alloy: Used for testing the composition analysis of aluminum alloy samples

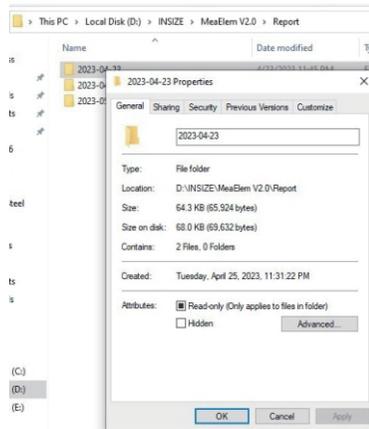Magnesium alloy: Used for testing the composition analysis of magnesium alloy samples

After inputting the spectral name and selecting the test curve, place the sample to be tested in the sample cavity and close the upper cover Click OK again to start testing

Start measure ✕

Measure Type
Scan Pure Element
Scan Standard San
Scan Sample

Sample Name 202305091
Operator:
Supplier:
Correct Curve Alloy Steel

✔ OK   ✗ Cancel

After the test is completed, the following test results will pop up

7 Measurement report

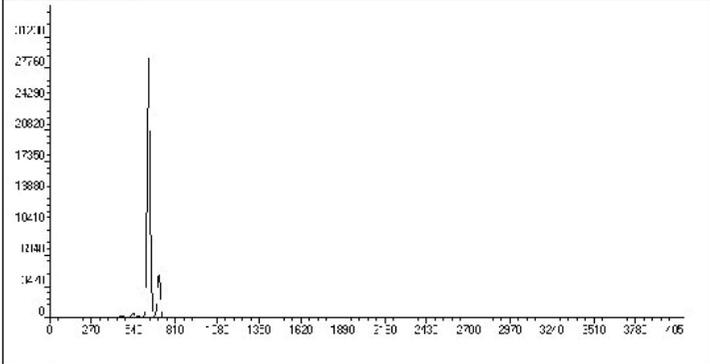After the measurement is completed, the report will be automatically stored in the location shown in the above figure.

8 Note

1. Sample preparation
The sample film must ensure that it is not contaminated by liquids or powders (contaminated ones can be wiped with alcohol), and there must be no damage (otherwise it may cause items to fall off and even damage valuable components)
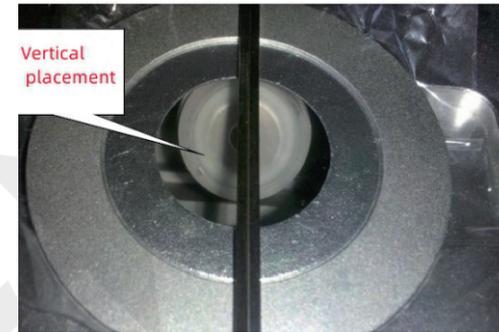
2. Sample placement precautions

There is a video device in the lower right corner of the software, as shown in the figure below, with a cross icon in the middle. The sample should be placed in the center of the cross as much as possible.

Try to put more small samples during testing

Strip samples, if the cross-sectional area of the sample is small, should be placed as much as possible during testing, so that the sample covers the testing window as much as possible. Place the sample along the vertical direction of the camera cross cursor, and do not reverse the direction.


Irregular sample: Test facing downwards and try to find a flat surface. The test point must be close to the test film on the test window and cannot be suspended in the air

Thinner samples (cut with scissors and stacked together with staples at both ends, then placed in the window for testing. Note that the staples should be placed outside the testing window

Powder samples need to be pressed into sheets

Replacement of testing film:
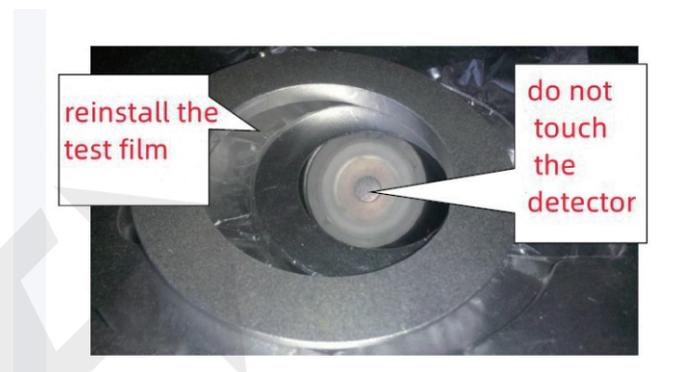
Take it off by hand

reinstall the test film

do not touch the detector

Be sure not to touch this part when replacing it. This is the beryllium window of the detector, which is nanoscale and can be damaged and irreparable if touched！！！

1 Open software

Find the following icon on the computer desktop,
right-click the mouse, and then click Open to open the software.

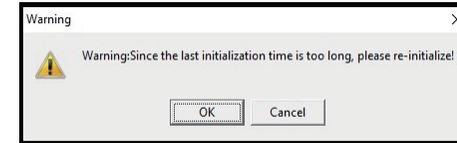SZRoHSAna...

2 The software displays as follows
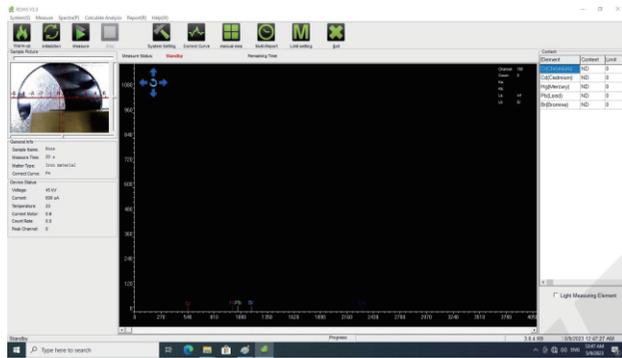
3 Warm up

Warming up is the first step of starting up every day to ensure that the device
is in a normal operating state,
Starting the measurement without preheating will seriously damage the service
life of the equipment.

4 Initialize

Warning:Since the last initialization time is too long, please re-initialize!

OK   Cancel

Click the initialization button on the software, and the silver
calibration interface will appear.

Place the Ag sheet in the sample chamber of the instrument,
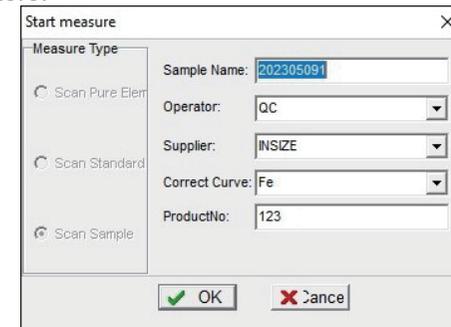and then click the OK button until the initialization is successful.

The purpose of instrument initialization is to align the element peak
channel, and instrument initialization is an important step before
testing the sample. If this step is ignored, it will seriously affect the
measurement results

5 Measurement sample

Click on the measurement sample button on the software, and the
following interface will pop up. Enter the sample name
 (spectral name) and sample number.
Note: The sample name and sample number cannot have special
characters.

Start measure

Measure Type

○ Scan Pure Elem

○ Scan Standard

● Scan Sample

Sample Name: 202305091
Operator: QC
Supplier: INSIZE
Correct Curve: Fe
ProductNo: 123

✔ OK   ✖ Cance

Select a calibration curve and select the corresponding calibration curve based on the type of sample being measured. The commonly used calibration curves are as follows:

PE: Test PE plastic samples and other non-metallic samples (such as PP, ABS, packaging materials, etc.).

PVC： Test all PVC plastic samples (Cl content generally higher than 50000ppm).

Cu: Used for testing most non-ferrous metal samples, such as copper alloys, zinc alloys, gold, silver, etc.

Fe: Used for testing iron based samples such as steel.

Sn: Used for testing all solder or tin materials (including samples with surface tin plating).

MgAl: Used for testing all aluminum magnesium alloy samples.

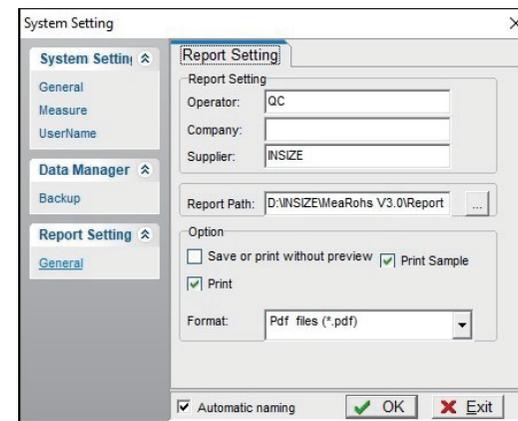TOY: Test the eight metal elements controlled in the toy instructions.

After inputting the spectral name and selecting the test curve, place the sample to be tested in the sample cavity and close the upper cover Click OK again to start testing
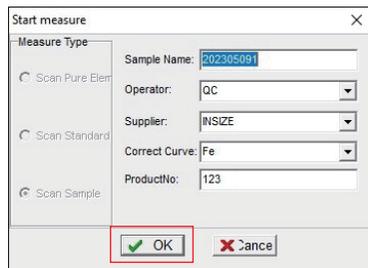
After the test is completed, the following test results will pop up

6 Measurement report

After the measurement is completed, the report will be automatically stored in the location shown in the above figure.

6 Note

1. Sample preparation
It must have been disassembled until it is mechanically inseparable. Samples of different materials must not be mixed for testing, otherwise it will cause uncontrollable testing errors

For example, if the surface paint of metal parts is sprayed, if the surface paint exceeds the standard but the metal parts do not, because the paint only has a very thin layer, and when not decomposed for testing, the radiation will penetrate the paint and test the metal parts. This way, the excessive paint will be diluted by the metal parts, causing the paint to exceed the standard and not be detected.

Halogen test: The tested sample must not be contaminated, especially when touching the surface to be tested (sweat on the hand will definitely affect Cl element). It is best to wipe both the test film and the tested sample with alcohol

Test film: The sample film must ensure that it is not contaminated by liquids or powders (contaminated ones can be wiped with alcohol), and there must be no damage (otherwise it may cause items to fall off and even damage valuable components)
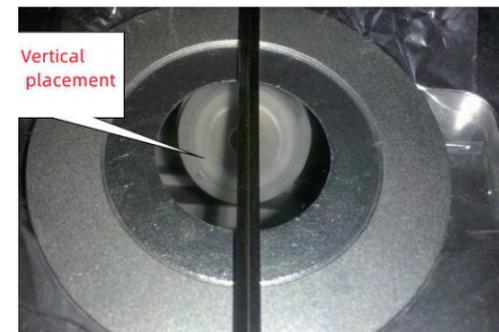
2.Sample placement precautions

There is a video device in the lower right corner of the software, as shown in the figure below, with a cross icon in the middle. The sample should be placed in the center of the cross as much as possible.

Try to put more small samples during testing

Strip samples, if the cross-sectional area of the sample is small, should be placed as much as possible during testing, so that the sample covers the testing window as much as possible. Place the sample along the vertical direction of the camera cross cursor, and do not reverse the direction.

error!

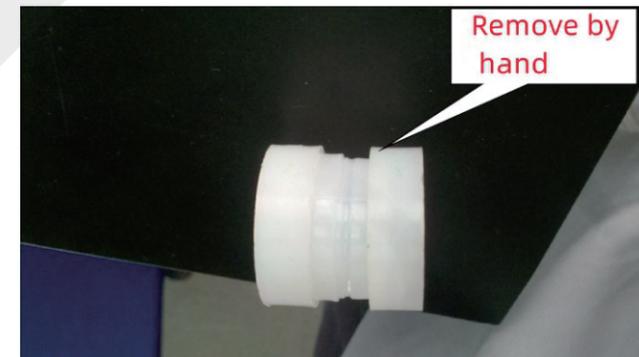hang in the air

error!

hang in the air

Irregular sample: Test facing downwards and try to find a flat surface. The test point must be close to the test film on the test window and cannot be suspended in the air
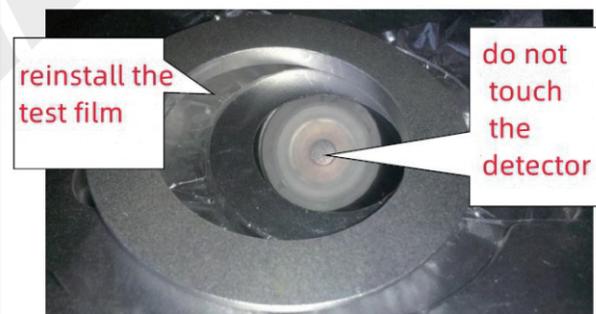

Thin samples such as paper and plastic (cut with scissors and stacked together with staples at both ends before placing them in the window for testing. Be sure to place the staples outside the testing window)

Grains, powders, and samples are held in sample cups

sample cup

Remove by hand

Put on the film

Place the sample after inversion

Fill the bottom with samples

Replacement of testing film:

Take it off by hand

reinstall the test film
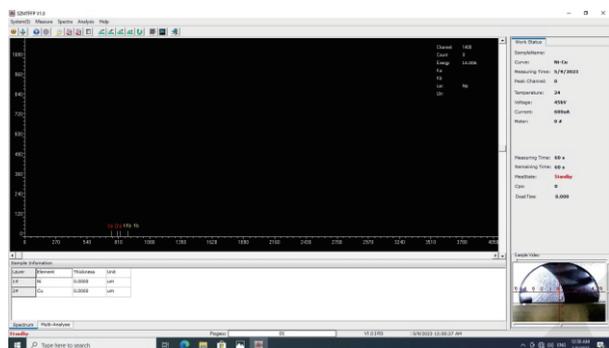
do not touch the detector

Be sure not to touch this part when replacing it. This is the beryllium window of the detector, which is nanoscale and can be damaged and irreparable if touched！！！
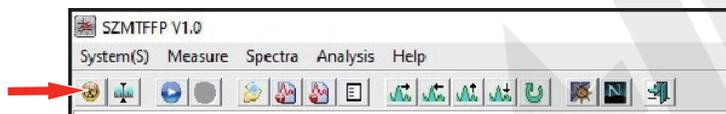
1 Open software

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right-click the mouse, and then click Open to open the software.
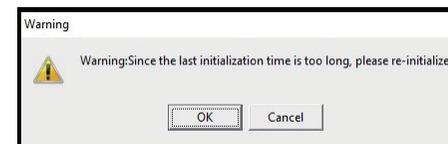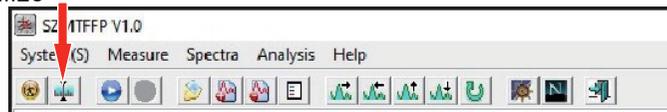

3 The software displays as follows

4 Warm up

Warming up is the first step of starting up every day to ensure that the device
is in a normal operating state,
Starting the measurement without preheating will seriously damage the service
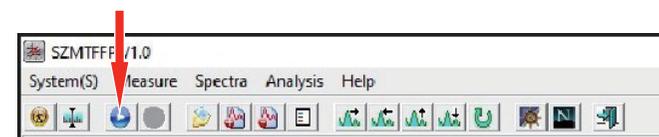life of the equipment.

5 Initialize

Click the initialization button on the software, and the silver
calibration interface will appear.

Place the Ag sheet in the sample chamber of the instrument,
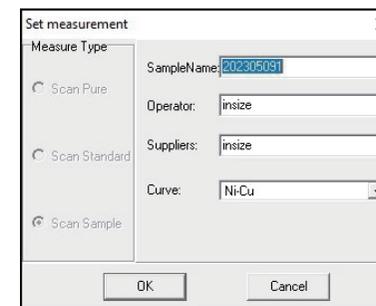and then click the OK button until the initialization is successful.

The purpose of instrument initialization is to align the element peak
channel, and instrument initialization is an important step before
testing the sample. If this step is ignored, it will seriously affect the
measurement results

6 Measurement sample

Click on the measurement sample button on the software, and the
following interface will pop up. Enter the sample name
 (spectral name) and sample number.
Note: The sample name and sample number cannot have special
characters.

Select a calibration curve and select the corresponding calibration curve based on the type of sample being measured. The commonly used calibration curves are as follows:

Ni Cu: Test samples coated with nickel on copper substrate

Zn Fe: Test samples with iron as the substrate for surface galvanizing

Cr Fe: Test samples with chromium plating on the surface of iron as the substrate

Cu Fe: Test samples coated with copper on the surface of iron as the substrate

Ni Fe: Test samples coated with nickel on the surface of iron as the substrate

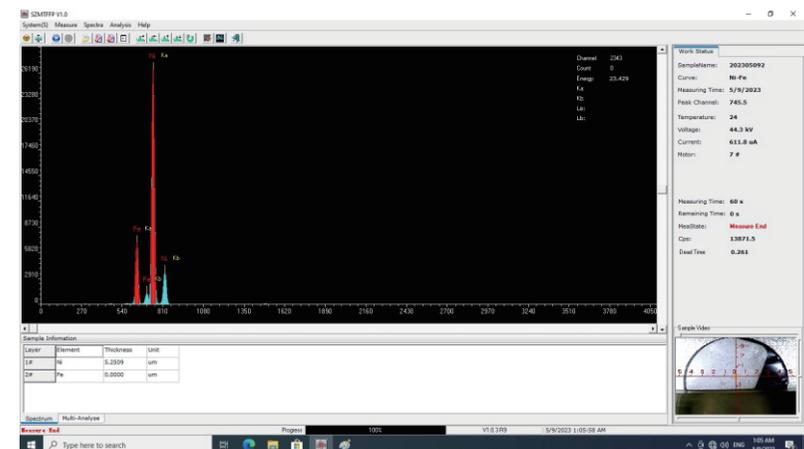Ni Cu Fe: Test samples coated with copper and then nickel on the surface of iron as the substrate

Sn Cu: Test samples coated with tin on copper substrate

Ag Cu: Test samples coated with silver on copper substrate

After inputting the spectral name and selecting the test curve, place the sample to be tested in the sample cavity and close the upper cover Click OK again to start testing
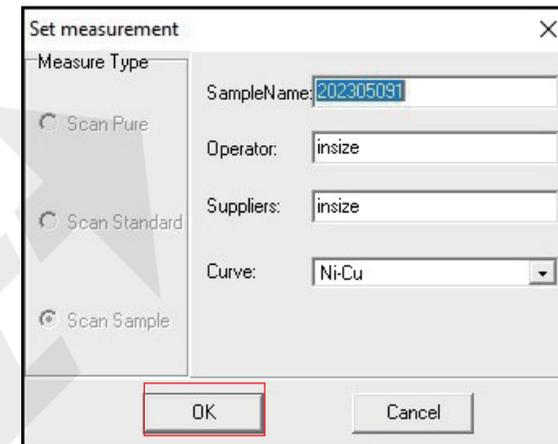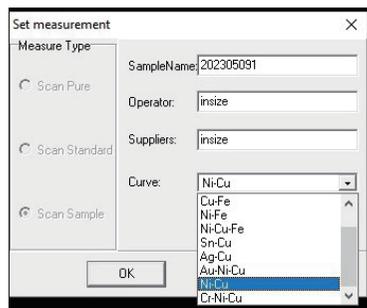
After the test is completed, the following test results will pop up

⑧ Note

1. Sample preparation
The sample film must ensure that it is not contaminated by liquids or powders (contaminated ones can be wiped with alcohol), and there must be no damage (otherwise it may cause items to fall off and even damage valuable components)
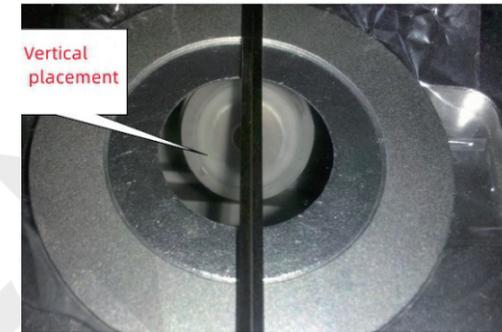
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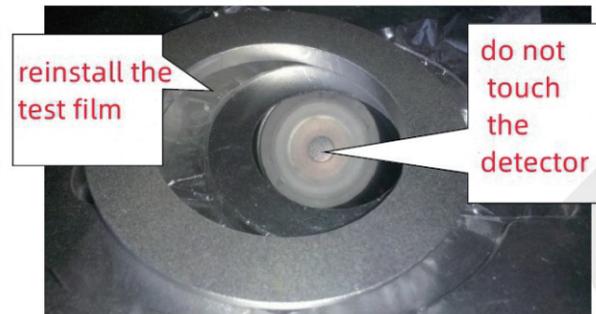

Try to put more small samples during testing

Strip samples, if the cross-sectional area of the sample is small, should be placed as much as possible during testing, so that the sample covers the testing window as much as possible. Place the sample along the vertical direction of the camera cross cursor, and do not reverse the direction.

Irregular sample: Test facing downwards and try to find a flat surface. The test point must be close to the test film on the test window and cannot be suspended in the air

Replacement of testing film:

Be sure not to touch this part when replacing it. This is the beryllium window of the detector, which is nanoscale and can be damaged and irreparable if touched！！！