X-Strata 920

Cost-effective, rapid and reliable XRF for coating thickness measurement and materials analysis
**High performance XRF spectrometer**
- Fast and precise analysis: the combination of a large-area proportional counter detector and Oxford Instruments’ 50-watt micro-focus X-ray tube (providing a high-intensity, small-spot X-ray beam for superior sample excitation) delivers optimum sensitivity
- Simple element differentiation: secondary beam filters enable the spectral separation of overlapping elements
- Optimised performance across a wide range of elements

**Rugged and robust design**
- Operation in a laboratory or by the production line
- Sturdy, industrial design

**Simple calibration setup**
- Fundamental Parameters (FP) methods provide simplicity and reliable quantitative results when no calibration standards are available
- Empirical calibrations provide best accuracy and results traceability, and use only a few standards
- Methods are created in minutes
- Oxford Instruments supply certified standards for best accuracy (A2LA and ISO/IEC 17025 accredited)

**X-Strata920** is supplied with over 800 pre-loaded, easy-to-select application parameters/methods

**Excellent long-term stability:**
- Automatic thermal compensation measures the instrument temperature and corrects for changes, giving stable results
- Simple and rapid Spectrum Calibration routine checks the instrument performance (such as sensitivity) and applies necessary corrections

**Remove results variability between operations**
- Simple ‘point and click’ operation to bring sample into focus
- Fixed focal distance: 0.5” (12.7 mm)

**Analysis of variety of sample shapes and sizes**
- Multi primary beam collimators
  - Optimal performance results through flexible collimator selection
  - Best sensitivity and speed of analysis
  - Up to 6 collimators for additional application capability

**Integrated laser**
- Advanced system security
  - Simple user interface with limited features for the routine operator
  - Manager level access for system maintenance
  - System usage logged by operator
  - Autolock function prevents unauthorised use of the instrument
Coating Thickness Analysis **As easy as...**

Three configuration options

To suit your analysis needs

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**1 Place samples on analysis table**

- Non-destructive analysis: no sample preparation
- Easy sample introduction/presentation: slotted chamber
- Large analysis table enables the measurement of large flat samples

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**2 Optimise camera focus at the click of a button**

- No operator-to-operator results variability: point-and-click laser focus
- Clear, pin-point analysis: high-resolution colour video camera with high magnification
- Unattended operation: single or multiple analyses using the programmable XY stage (optional) and Z axis
- Simple and quick multi-point analysis: customer pre-defined analysis patterns

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**3 Press Go**

- Results displayed within seconds
- Save, print or send results
- Create pre-defined or customised reports in very few steps
- Export results into Microsoft® Excel at the push of a button

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**Standard base**

- A ‘Slotted chamber’ allows the measurement of a wide range of samples from small components to very large flat samples e.g. printed circuit board. The size of the sample can exceed the width of the instrument.
- Motorised and software controlled analysis head for speed and ease of use.
- For the analysis of samples up to 33mm (1.3”) in height.

**Mini-well base**

- The ‘Mini-well’ chamber design allows the measurement of a wide range of parts/components from small to large, i.e. up to 160mm (6.3”) in height.
- Sample tray which can be positioned in one of four positions in the ‘Mini-well’ to hold samples of differing height, ensuring a range of parts/components can be measured with ease.
- ‘Slotted chamber’ allows the measurement of large flat samples, e.g. printed circuit boards whose size can exceed the width of the instrument.

**Programmable base**

- A motorised and programmable table allows automatic measurements for highest sample throughput and unattended operation.
- Mouse control enables easy positioning of the parts/components being analysed to the precise points for analysis.
- The ‘Slotted chamber’ allows large flat samples to be measured, e.g. printed circuit boards.
- Table size: 56mm (22”) D x 61mm (24”) W

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**Results export**

- Export results into Microsoft® Excel or create custom reports
- Apply custom statistical analysis formats
- Include statistical data analysis
- Capture the sample image in reports
X-Strata 920

Powerful, reliable and easy to use EDXRF spectrometer guaranteeing quality and reducing costs

Electronics

Solderability

Component reliability assurance

Component reliability assurance

Corrosion Resistance

Wear/Heat Resistance

Metal Finishing

Minimise production cost of the plating process and maximise production output

Metal alloy composition and identification

Precious metal alloy assay

Assay and ID

Metal Alloy

Assay and ID

Precious metal alloy assay

Cosmetic Finish

Metal alloy composition and identification

Precious metal alloy assay

Cosmetic Finish

Electrical Contact

Electrical and electronic components increase productivity with better process control

Electrical and electronic components increase productivity with better process control

Electrical and electronic components increase productivity with better process control

Surface Finish

Top layer:

Au (gold) coating thickness

Second layer:

Pd (palladium) coating thickness

Third layer:

Ni (nickel) coating thickness

Fourth layer:

Substrate

Top layer:

Au (gold) coating thickness

Second layer:

Pd (palladium) coating thickness

Third layer:

Ni (nickel) coating thickness

Fourth layer:

Substrate

X-ray fluorescence (XRF) method

X-ray Fluorescence (XRF) instruments work by exposing a sample to be measured to a beam of primary X-rays. The atoms of the sample absorb energy from the X-rays, become temporarily excited and then emit secondary X-rays. Each chemical element emits X-rays at a unique energy. By measuring the intensity and characteristic energy of the emitted X-rays, an XRF analyser can provide qualitative and quantitative analysis regarding the thickness and composition of the material being tested.

Benefits of analysis by X-ray fluorescence

Minimal or no sample preparation

Non-destructive analysis

Wide range of element determination, Ti22 to U92

Analysis of solids and solutions

Rapid analysis: results in seconds

Qualitative, semi-quantitative and full quantitative analysis

Easy to use with only minimal training

Standard test methods, specifications and guides using XRF technique are used internationally to improve product quality, safety, facilitate market access and trade, and build consumer confidence. For example, X-Strata 920 complies with:

- ASTM B568: Standard test method for measurement of coating thickness by X-ray spectrometry
- ISO 3497: Metallic coatings – Measurement of coating thickness – X-ray spectrometric methods
Oxford Instruments: The only supplier who offers a complete range of coating thickness analyzers

OiService - worldwide service and support

Oxford Instruments Customer Service recognises there are many decisions to make when choosing the right product and company with which to partner. It is not just about superb instrument functionality or the rugged design of the analyser. The OiService teams are aware of the necessity to demonstrate our depth of knowledge, skills, experience and expertise with regard to supporting our customers.

Oxford Instruments offers a range of support packages that provide you with the level of service you require:

- Technical help desk support
- Extended warranty contracts
- Tailored service plan agreements
- World class training academy
- Genuine approved spare parts
- Consumable products Webshop
- Rental analyser scheme on certain products
- Service repair at OiService centre

Please ask about details of our comprehensive range of products or visit our website at: www.oxford-instruments.com/ia-customerservice

Visit www.oxford-instruments.com/x-strata for more information or email: industrial@oxinst.com

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Mag/Eddy gauges
Coating thickness systems for metal finishing, galvanizing and electroplating

Handheld XRF
Portable XRF solution for single or double layer coating thickness measurement

Benchtop XRF
Fast, reliable, high performance non-destructive coating thickness measurement and materials analysis

Inline system
Inline coating thickness measurement, custom designed and integrated into the production process

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