

# Analysis of Jewellery and Precious Metals

## Fast – Accurate – Non-Destructive

### Using FISCHER XAN® Series EDXRF Instruments



Gold is very precious and is of significance in various areas of economic life, particularly in the jewellery industry. More than 80% of global gold production is processed in the jewellery industry, which means that for economic and legal reasons, the accurate determination of the gold content is extremely important.

Cupellation is the method recognized worldwide for the exact determination of gold content. However, this method is time-consuming and costly. In contrast, gold content measurement using X-ray fluorescence is faster and above all, non destructive. Therefore, X-ray fluorescence provides an effective and more cost-efficient solution.

#### Areas of application:

The following are just some areas where X-ray fluorescence analysis with FISCHER XAN® Series has significant advantages:

- Jewellery and the watch trade
- Hallmarking centres & laboratories responsible for gold and precious metal determinations
- Assay offices for the determination of the purity
- Jewellery manufacturers & gold refineries
- Separation institutes and recycling companies
- Coin mints
- Manufacturers and processors of dental alloys
- Customs authorities

**Fischer®**

## FEATURES FOR ALL FISCHER XAN® SERIES INSTRUMENTS :

- Oil cooled tungsten tube, thermally stabilized for extended life and stability.
- High resolution video camera with unique perpendicular viewing of the measurement spot because of a patented optical path design.
- Picture in picture presentation of the video image.
- Magnification upto 184x.
- Patented DCM – method for measurements in indentations of the specimen surface.
- Fully reliable high voltage generator with adjustable settings to optimize applications : 10kV, 30kV, 50kV.
- Easy optical focusing on the measurement spot with external knob.
- Start , Stop buttons on the machine for easier and faster operation.
- Fixed specimen support with integrated video-microscope, cross hair, beam indicator, LED illumination and magnification make sample placement quick and easy.
- No need to adjust a table or sample stage – just place and measure.
- All instruments are loaded with advanced Fischer Win FTM operating software which is all inclusive – complete, easy to use and without any need for additional modules or upgrades.
- Advanced fundamental parameter method for standard-free measurements.
- Calibration with Fischer DKD certified standards ensuring highest accuracy and traceability of measurement results.
- Material analysis of composition and coating thickness.
- Display of measured values as karat, wt% or %.
- Fully programmable reporting tool for customized reports.
- Manufactured at state of art manufacturing facility at Sindelgfinen, Germany as per highest German standards.
- Measurement method meeting requirements of DIN ISO 3497 and ASTM B 568.
- All models are full protection instruments with design approval according to German ordinance.
- Sales and service offered directly by well trained sales and service engineers of Fischer India (100% subsidiary) and thus securing the investment of customers.

### FISCHERSCOPE® XAN® -150

- Very high energy resolution due to Silicon Drift Detector (SDD).
- Ultra-fast Digital Pulse Processor with high count rates.
- Six primary filters.
- Four collimators with programmable motorized control. (Ø 0.2, 0.6, 1 & 2 mm).
- **Intended Use** : For material analysis, coating thickness, Hallmarking, Assaying Centres and RoHS screening in Testing Labs.

### FISCHERSCOPE® XAN® -120

- High energy resolution due to Si-PIN semiconductor detector.
- Very Fast Pulse Processor for stable and accurate results.
- Single collimator Ø 1 mm. (Optional Ø 2 mm).
- **Intended Use** - Hallmarking , Assaying/ Touch Centres looking for reliable accurate and cost effective instrument with single collimator.

### FISCHERSCOPE® XAN® -FD

- High energy resolution due to Si-PIN semiconductor detector.
- Very Fast Pulse Processor for stable and accurate results.
- Three primary filters.
- Four collimators with programmable motorized control. (Ø 0.2, 0.6, 1 & 2 mm).
- Most widely used for material analysis and coating thickness in Hallmarking, Assaying Centres and Testing Labs.

### FISCHERSCOPE® XAN® -110

- Proportional counter tube for high count rates and short measuring time.
- Very Fast Pulse Processor for stable and accurate results.
- Single collimator Ø 0.3mm.
- Specially designed for fast, accurate and non-destructive method of measurement for Gold & Silver Jewellery alloy composition
- Single click operation with the help of task menu and class of material.
- **Intended Use** - Cost effective instrument for Gold, Silver, Rhodium Coatings and other jewellery analysis in **front - end retail shops, show rooms and retail chains.**

**fischer®**

 Coating Thickness  Material Analysis  Microhardness  Material Testing