

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



0012

Accredited to  
ISO/IEC 17025:2017

### The Sheffield Assay Office

Issue No:057 Issue date: 12 May 2023

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Testing performed at the above address only

#### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS)</b>	<u>Chemical Tests for the purpose of Hallmarking</u>	Documented In-House Methods
Precious metals and alloys	Gold, Silver, Platinum, Palladium	X-ray fluorescence analysis (XRF) - ATM 105
	Gold, Silver, Platinum, Palladium	Optical Emission Spectrometry (ICP-OES) - ATM 74
	Gold	Fire assay technique (cupellation) - ATM 01
	Silver	Potentiometric titration - ATM 11
<b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS)</b>	<u>Chemical Tests</u>	Documented In-House Methods
<u>Precious metal alloys &amp; powders</u>	Gold, Palladium, Platinum, Rhodium	ATM 74 using Optical Emission Spectrometry (ICP-OES)
<u>Precious metal alloys &amp; powders</u>	Elemental analysis	Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional parameters using Flexible Scope Protocol AP 10 and ICP-OES instrumentation by method ATM 074
	Silver	Potentiometric titration - ATM 11 or ATM 12
		Fire assay technique (cupellation) - ATM 02



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS) (cont'd)</b>	<u>Chemical Tests (cont'd)</u>	<u>Documented In-House Methods</u>
Precious metal powders	Gold	Fire assay technique (cupellation) – ATM 01
High purity silver	Gold, Platinum, Palladium	Lead fusion/fire assay/ICP-OES ATM 03
Base metals & alloys (e.g. steels)	Aluminium, Arsenic, Gold, Bismuth, Cadmium, Cobalt, Chromium, Copper, Iron, Magnesium, Manganese, Nickel, Lead, Palladium, Platinum, Antimony, Selenium, Silicon, Tin, Tellurium, Titanium, Zinc, Boron, Mercury, Indium, Phosphorous, Ruthenium,	ATM 79 using Optical Emission Spectrometry (ICP-OES)
Base metals & alloys (e.g. steels)	Aluminium, Boron, Bismuth, Cobalt, Chromium, Copper, Iron, Lead Magnesium, Manganese, Nickel, Molybdenum, Niobium, Phosphorous, Silicon, Tin, Tantalum, Titanium, Vanadium, Tungsten, Zinc, Zirconium	ATM 150 using Optical Emission Spectrometry (ICP-OES)
Base metals & alloys (e.g. steels)	Elemental analysis	Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-OES instrumentation by Method ATM150, ATM101, ATM102, ATM72
	Carbon Sulphur	Combustion/Infra-red analysis - ATM 82
	Silver	Potentiometric titration - ATM 11 or ATM 12
Metals, Metal Alloys, and Metal Powders (e.g titanium and steels)	Nitrogen,Oxygen, & Hydrogen	Thermoconductivity and IR absorption (Eltra ONH 2000 Analyser) using in-house method ATM 149



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<b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS) (cont'd)</b>	<u>Chemical Tests (cont'd)</u>	<u>Documented In-House Methods</u>
Copper and Brass alloys	Arsenic, Aluminium, Bismuth, Cadmium, Chromium, Copper, Iron, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Lead, Antimony, Silicon, Tin, Titanium, Zinc	ATM 101 using Optical Emission Spectrometry (ICP-OES)
Aluminium alloys	Aluminium, Bismuth, Chromium, Copper, Iron, Gallium, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Lead, Antimony, Silicon, Tin, Titanium, Zinc, Zirconium	ATM 102 using Optical Emission Spectrometry (ICP-OES)
Lead/Tin Alloys	Silver, Aluminium, Arsenic, Gold, Bismuth, Cadmium, Copper, Iron, Indium, Nickel, Lead, Palladium, Antimony, Tin Zinc	ATM 72 using Optical Emission Spectrometry (ICP-OES)
Ferrosilicon Alloys	Aluminium, Barium, Calcium, Chromium, Iron, Magnesium, Manganese, Phosphorus, Silicon, Titanium, Zirconium	ATM 166 using Optical Emission Spectroscopy (ICP-OES)
Titanium Alloys	Aluminium, Chromium, Copper, Iron, Molybdenum, Nickel, Niobium, Tantalum, Tin, Titanium, Vanadium, Zirconium	ATM 167 using Optical Emission Spectroscopy (ICP-OES)
Metal powders and Turnings	Loss-on-ignition at 120 °C, 500 °C and 800 °C	Gravimetric determination - ATM 144



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<p><b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS) (cont'd)</b></p> <p>Metals, metal alloys and metal powders (trace analysis)</p>	<p><u>Chemical Tests (cont'd)</u></p> <p>Gold, Silver, Platinum, Palladium, Aluminium, Arsenic, Antimony, Boron, Barium, Beryllium, Bismuth, Calcium, Cadmium, Chromium, Copper, Iron, Gallium, Hafnium, Mercury, Indium, Iridium, Lanthanum, Magnesium, Manganese, Molybdenum, Sodium, Niobium, Nickel, Phosphorus, Lead, Rhenium, Rhodium, Ruthenium, Selenium, Silicon, Tin, Tantalum, Tellurium, Thorium, Thallium, Titanium, Vanadium, Tungsten, Yttrium, Zinc, Zirconium</p>	<p><u>Documented In-House Methods</u></p> <p>ICP-OES - ATM 83</p>
<p>Metals, metal alloys and metal powders (trace analysis)</p>	<p>Elemental analysis</p>	<p>Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-OES instrumentation by ATM83</p>
<p>Metals in solution (eg, plating solutions, tank washings, process waste)</p>	<p>Gold, Silver, Platinum, Palladium, Aluminium, Arsenic, Antimony, Boron, Barium, Beryllium, Bismuth, Calcium, Cadmium, , Chromium, Copper, Iron, Gallium, Hafnium, Mercury, Indium, Iridium, Potassium, Lanthanum, Magnesium, Manganese, Molybdenum, Sodium, Niobium, Nickel, Phosphorus, Lead, Rhenium, Rhodium, Ruthenium, Selenium, Silicon, Tin, , , Thorium, Thallium, Titanium, Vanadium, Tungsten, Yttrium, Zinc, Zirconium</p>	<p>ICP-OES - ATM 83</p>



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<p><b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS) (cont'd)</b></p> <p>Metals in solution (e.g. plating solutions, tank washings, process waste)</p> <p>Metals, metal alloys and metal powders (trace analysis)</p> <p>Metals, metal alloys and metal powders (trace analysis)</p> <p>Metals in solution (eg, cell culture solutions, plating solutions, tank washings, process waste)</p> <p>Metals in solution (eg, cell culture solutions, plating solutions, tank washings, process waste)</p> <p>Jewellery and related products</p>	<p><u>Chemical Tests (cont'd)</u></p> <p>Elemental analysis</p> <p>Sb, As, Bi, Cd, Ca, Cr, Co, Cu, Hf, In, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Te, Sn, Ti, Tl, Th, Zn, Zr, Hg</p> <p>Elemental analysis</p> <p>Sb, As, Bi, Cd, Ca, Cr, Co, Cu, Hf, In, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Te, Sn, Ti, Tl, Th, Zn, Zr, Hg</p> <p>Elemental analysis</p> <p>Nickel (releasable)</p>	<p><u>Documented In-House Methods</u></p> <p>Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-OES instrumentation by ATM83</p> <p>Documented in house test method using ICP-MS (ATM 160)</p> <p>Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-MS instrumentation by ATM160</p> <p>Documented in house test method using ICP-MS (ATM 160)</p> <p>Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-MS instrumentation by ATM160</p> <p>Acid dissolution followed by ICP-OES or ICP-MS based on BS EN 1811:2011 + A1:2015/, BS EN 12472:2020 + A1:2009 (ATM 87, ATM 89)</p>



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<b>METALS and METAL ALLOYS (Including PRECIOUS METALS/ALLOYS) (cont'd)</b>  Jewellery and related products (including childrens jewellery and painted jewellery)	<u>Chemical Tests (cont'd)</u>	<u>Documented In-House Methods</u>
	Lead and Cadmium	16 CFR part 1303: Documented in house method ATM 134 based on CPSC-CH-E1001-08.1 using ICP-OES
	Lead and Cadmium	Documented in house method ATM 134 based on CPSC-CH-E1001-08.1 and CPSC-CH-E1003-09.1. using ICP-MS
	<u>Chemical Tests</u>	<u>Documented In-House Methods</u>
	Lead and Cadmium	16 CFR part 1303: Documented in house method ATM 134 based on CPSC-CH-E1003-09.1 using ICP-OES)
	Lead and Cadmium	Documented in house method ATM 134 based on CPSC-CH-E1001-08.1 and CPSC-CH-E1003-09.1. using ICP-MS
<b>PAINT</b>		
<b>BODY FLUIDS</b>  Urine samples (human)	<u>Chemical Tests</u>  Mercury and creatinine content	<u>Documented In-House Method</u>  Atomic fluorescence (cold vapour technique - CV-AFS) and UV/VIS spectrophotometry ATM 103



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<b>MEDICAL MATERIALS</b>	<u>Chemical Tests</u>	<u>Documented In-House Method</u>
Alginate Fibres	Silver, Arsenic, Cadmium, Cobalt, Copper, Iron, Mercury, Sodium, Nickel, Lead, Tin, Zinc	ATM 99 using ICP-MS
Medical Materials	Silver	ATM 106 using Optical Emission Spectrometry (ICP-OES)
Silver Migration into Simulated Wound Fluid	Silver	ATM 115 using Optical Emission Spectrometry (ICP-OES)
Alginate Fibres & Medical Materials	Elemental analysis	Analysis through the appropriate application of documented in house methods for sampling, preparation and measurement for additional elements using Flexible Scope Protocol AP 10 and ICP-OES instrumentation by ATM99, ATM106
END		