



SCOPE OF ACCREDITATION TO ISO 17034:2016

LGC STANDARDS  
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REFERENCE MATERIAL PRODUCER

Valid To: September 30, 2025

Certificate Number: 2848.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this Reference Material Producer for the production of certified reference materials and reference materials of the following types:

I. Certified Reference Materials

Certified Reference Material/ Artifact or Matrix	Properties Characterized/ Concentration Ranges	Approach to Assigning Property Values
High Purity Metals – Spectrochemical Solutions		
Single Element Standards	(0.001 to 50 000) µg/mL	ICP-OES, ICP-MS
Multi Element Standards	(0.001 to 50 000) µg/mL	ICP-OES, ICP-MS
Ion Chromatography Standards (Anions and Cations) –		
Single-Ion Standards	(0.001 to 10 000) µg/mL	IC
Multi-Ion Standards	(0.001 to 10 000) µg/mL	IC

<b>Certified Reference Material/ Artifact or Matrix</b>	<b>Properties Characterized/ Concentration Ranges</b>	<b>Approach to Assigning Property Values</b>
Petroleum Products – Fuel and Lubricants		
Acid Number	(0.1 to 3.0) mg KOH/g	Titrimetry
Base Number	(6 to 70) mg KOH/g	Titrimetry
Chlorine (Cl)	(1 to 50 000) µg/mL	ICP-OES, XRF
FT-IR Standard	(1 to 100) ABS/cm	FT-IR
Lead (Pb)	(0.001 to 5.0) g/gal	ICP-OES, XRF
Moisture (H <sub>2</sub> O)	0.001 % to 1.0 %	Karl Fischer, Titrimetry
Viscosity	(0.3 to 1000) cSt	Viscometry
Sulfur (S)	(0.010 to 50 000) µg/g	XRF
Single Element Standards	(0.001 to 300 000) µg/g	ICP-OES, XRF
Multi Element Standards	(0.001 to 50 000) µg/g	ICP-OES, XRF
Wear Metals in Oils – Single Element Standards	(0.001 to 300 000) µg/g	ICP-OES
Multi Element Standards in Petroleum Products	(0.001 to 50 000) µg/g	ICP-OES

Certified Reference Material/ Artifact or Matrix	Properties Characterized/ Concentration Ranges	Approach to Assigning Property Values
<p>ARMI Multi-Element in Solid Metal –</p> <p>Steels Carbon Steels Low Alloy Steels High Alloy Steels Cast Steels Specialty Steels Irons White Irons Cast Irons Ductile Irons Gray Iron Nodular Iron</p> <p>Aluminum Alloys Copper Base Alloys Cobalt Base Alloys Magnesium Base Alloys Nickel Base Alloys Titanium Base Alloys Zinc Base Alloys Zirconium Base Alloys</p> <p>Special Alloys: (Solids, Chips, Pins, Powder)</p> <p>Ores and Minerals – Iron Ore Iron Ore Sinter Bauxite</p> <p>Metal Producing Materials &amp; Byproducts – Ferroalloys Silico-calcium Slag Alumina</p>	<p>Elemental Composition: Al to Zr Range: (0.000001 to 100.00000) %</p>	<p>Measurement by one or more qualified laboratories using two or more methods of demonstrable accuracy</p>



## II. Reference Materials

Reference Material/ Artifact or Matrix	Properties Characterized/ Concentration Ranges	Approach to Assigning Property Values
Particle Count Reference Materials	(0 to 100 000) particles	Particle counting

Reference Material/ Artifact or Matrix	Properties Characterized/ Concentration Ranges	Approach to Assigning Property Values
Ferrous Metals: (Solids, Chips, Pins, Powder) –  Steels Carbon steels Low alloy steels High alloy steels Cast steels Specialty steels Irons White irons Cast irons Ductile irons Gray iron Nodular iron	Elemental Composition	Measurement by RM producer on a representative subset of samples
Nonferrous Metals: (Solids, Chips, Pins, Powder) –  Aluminum Alloys Copper Base Alloys Cobalt Base Alloys Magnesium Base Alloys Nickel Base Alloys Titanium Base Alloys Zinc Base Alloys Zirconium Base Alloys	Elemental Composition	Measurement by RM producer on a representative subset of samples
Special Alloys: (Solids, Chips, Pins, Powder)	Elemental Composition	Measurement by RM producer on a representative subset of samples



Reference Material/ Artifact or Matrix	Properties Characterized/ Concentration Ranges	Approach to Assigning Property Values
Ores and Minerals –  Iron ore Iron ore sinter Bauxite	Elemental Composition	Measurement by RM producer on a representative subset of samples
Metal Producing Materials & Byproducts –  Ferroalloys Silico-calcium Slag Alumina	Elemental Composition	Measurement by RM producer on a representative subset of samples





# Accredited Reference Material Producer

A2LA has accredited

**LGC STANDARDS**

*Manchester, NH*

This accreditation covers the specific materials listed on the agreed upon Scope of Accreditation.

This producer meets the requirements of ISO 17034:2016 *General Requirements for the Competence of Reference Material Producers*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.



Presented this 3<sup>rd</sup> day of January 2024.

A blue ink signature of a person, likely the Vice President of Accreditation Services, written over a horizontal line.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 2848.02  
Valid to September 30, 2025

*For reference materials to which this accreditation applies, please refer to the reference material producer's Scope of Accreditation.*