



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ARCONIC TECHNOLOGY CENTER  
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New Kensington, PA 15069  
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CALIBRATION

Valid To: July 31, 2020

Certificate Number: 1019.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Chemical

Parameter/Equipment	Range <sup>5</sup>	CMC <sup>2</sup> (±)	Comments
Spark Optical Emission Spectrometers <sup>3</sup>	(0 to 0.0005) % (0.0005 to 0.001) % (0.001 to 0.005) % (0.005 to 0.01) % (0.01 to 0.05) % (0.05 to 0.1) % (0.1 to 0.5) % (0.5 to 1) % (1 to 10) % (10 to 50) %	0.0002 % Absolute 0.0003 % Absolute 0.0005 % Absolute 9.8 % Relative 7.9 % Relative 5.1 % Relative 4.0 % Relative 3.0 % Relative 2.2 % Relative 2.2 % Relative	Calibration verification using SRMs. See Table 1  Estimated from 1.0 % to 10 %

### III. Mechanical

Parameter/Equipment	Range	CMC <sup>2, 4, 6</sup> ( $\pm$ )	Comments
Force – Measuring Equipment			
Tension	(50 to 500) lbf (500 to 5000) lbf (2500 to 25 000) lbf (25 000 to 100 000) lbf	0.12 % rdg + 0.23 lbf 0.017 % rdg + 0.82 lbf 0.026 % rdg + 0.34 lbf 0.043 % rdg + 13 lbf	ASTM E4
Compression	(50 to 500) lbf (500 to 5000) lbf (2500 to 25 000) lbf (25 000 to 100 000) lbf	0.091 % rdg + 0.23 lbf 0.0091 % rdg + 1.2 lbf 0.022 % rdg + 0.73 lbf 0.051 % rdg + 3.7 lbf	
Extensometer Gauge Length –	(0.5 to 1.0) in.	(1100L – 470) $\mu$ in	ASTM E83
Strain Travel	(0.1 to 1.0) in.	(680L + 46) $\mu$ in	

<sup>1</sup> This laboratory is not normally available for commercial calibration service. This laboratory performs calibration service and field calibration services.

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup> Field calibration service is available for this calibration and this laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

<sup>4</sup> In the statement of CMC,  $L$  is the nominal numerical value of the length in inches.

<sup>5</sup> The notation % is defined as weight percent.

<sup>6</sup> The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges

indicated for the listed measurement parameter.

Table 1: Typical Maximum Calibrated Concentrations in Weight Percent

Element	Concentration <sup>4</sup> (w/o)
Antimony (Sb), Arsenic (As)	0.1 %
Beryllium (Be)	0.3 %
Bismuth (Bi), Lead (Pb)	1.0 %
Boron (B), Cadmium (Cd)	0.05 %
Calcium (Ca)	0.05 %
Chromium (Cr)	0.4 %
Cobalt (Co)	0.02 %
Copper (Cu)	20 %
Gallium (Ga), Phosphorous (P)	0.05 %
Iron (Fe)	3.5 %
Lithium (Li)	4.0 %
Magnesium (Mg)	12 %
Manganese (Mn), Silver (Ag)	1.5 %
Nickel (Ni)	3.0 %
Scandium (Sc), Titanium (Ti)	0.5 %
Silicon (Si)	18 %
Sodium (Na)	0.04 %
Strontium (Sr)	0.1 %
Tin (Sn)	6.0 %
Vanadium (V)	0.2 %
Zinc (Zn)	11 %
Zirconium (Zr)	0.02 %





## *Accredited Laboratory*

A2LA has accredited

### **ARCONIC TECHNOLOGY CENTER**

*New Kensington, PA*

for technical competence in the field of

### **Calibration**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 9<sup>th</sup> day of November 2018.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 1019.03  
Valid to July 31, 2020

*For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.*