



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Aerospace Testing & Pyrometry, Inc.**

**2020 Dayton Drive**

**Easton, PA 18040**

**(and satellite site as listed on the scope)**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**CALIBRATION**

This certificate is valid only when accompanied by a current scope of accreditation document.  
The current scope of accreditation can be verified at [www.anab.org](http://www.anab.org).

Jason Stine, Vice President

Expiry Date: 04 March 2027

Certificate Number: L2446



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Aerospace Testing & Pyrometry, Inc.

2020 Dayton Drive  
Easton, PA 18040  
Andrew Bassett 844-828-7225

### CALIBRATION

Valid to: **March 4, 2027**

Certificate Number: **L2446**

#### Electrical – DC/Low Frequency

| Parameter / Equipment                           | Range                            | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment                      |
|-------------------------------------------------|----------------------------------|-------------------------------------------|------------------------------------------------------------------|
| Calibration of Process Instruments <sup>1</sup> | Up to 75 mV                      | 6 $\mu$ V/V + 9.3 $\mu$ V                 | Millivolt Simulation with Universal Calibrator per AMS-2750H.    |
|                                                 | Up to 10 V                       | 1 mV/V + 6.4 mV                           | Voltage Simulation with Universal Calibrator per AMS-2750H.      |
|                                                 | Up to 20 mA                      | 2 $\mu$ A/A + 8.9 $\mu$ A                 | milliAmp Simulation with Universal Calibrator per AMS-2750H.     |
|                                                 | Pt 100-385<br>(-320 to 1 400) °F | 0.72 °F                                   | RTD Simulation with Universal Calibrator.                        |
|                                                 | Type B<br>(1 112 to 1 652) °F    | 2.5 °F                                    | Thermocouple Simulation with Universal Calibrator per AMS-2750H. |
|                                                 | (1 652 to 2 102) °F              | 1.8 °F                                    |                                                                  |
|                                                 | (2 102 to 3 000) °F              | 1.5 °F                                    |                                                                  |
|                                                 | Type E<br>(-200 to 1 600) °F     | 0.7 °F                                    |                                                                  |
|                                                 | Type J<br>(0 to 932) °F          | 0.68 °F                                   |                                                                  |
|                                                 | (932 to 1 600) °F                | 0.8 °F                                    |                                                                  |
|                                                 | Type K<br>(-200 to 1 922) °F     | 0.8 °F                                    |                                                                  |
|                                                 | (1 922 to 2 400) °F              | 0.9 °F                                    |                                                                  |
|                                                 | Type N<br>(0 to 2 012) °F        | 0.81 °F                                   |                                                                  |
|                                                 | (2 012 to 2 372) °F              | 0.89 °F                                   |                                                                  |

### Electrical – DC/Low Frequency

| Parameter / Equipment                           | Range               | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment                      |
|-------------------------------------------------|---------------------|-------------------------------------------|------------------------------------------------------------------|
| Calibration of Process instruments <sup>1</sup> | Type R              |                                           | Thermocouple simulation with Universal Calibrator per AMS-2750H. |
|                                                 | (0 to 482) °F       | 2.7 °F                                    |                                                                  |
|                                                 | (482 to 1 382) °F   | 1.5 °F                                    |                                                                  |
|                                                 | (1 382 to 2 192) °F | 1.3 °F                                    |                                                                  |
|                                                 | (2 192 to 3 200) °F | 1.5 °F                                    |                                                                  |
|                                                 | Type S              |                                           |                                                                  |
|                                                 | (0 to 212) °F       | 2.7 °F                                    |                                                                  |
|                                                 | (212 to 752) °F     | 1.9 °F                                    |                                                                  |
|                                                 | (752 to 3 092) °F   | 1.5 °F                                    |                                                                  |
|                                                 | (3 092 to 3 200) °F | 1.8 °F                                    |                                                                  |
|                                                 | Type T              |                                           |                                                                  |
|                                                 | (-320 to -58) °F    | 1.3 °F                                    |                                                                  |
|                                                 | (-58 to 32) °F      | 0.81 °F                                   |                                                                  |
|                                                 | (32 to 750) °F      | 0.68 °F                                   |                                                                  |

### Thermodynamic

| Parameter / Equipment              | Range               | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment                                               |
|------------------------------------|---------------------|-------------------------------------------|-------------------------------------------------------------------------------------------|
| System Accuracy Tests <sup>1</sup> | Type J              |                                           | Calibration by Comparison to Universal Calibrator / Multipoint Data Logger per AMS-2750H. |
|                                    | (100 to 302) °F     | 1.8 °F                                    |                                                                                           |
|                                    | (302 to 1 000) °F   | 1.7 °F                                    |                                                                                           |
|                                    | Type K              |                                           |                                                                                           |
|                                    | (100 to 248) °F     | 1.8 °F                                    |                                                                                           |
|                                    | (248 to 1 600) °F   | 1.8 °F                                    |                                                                                           |
|                                    | (1 600 to 2 502) °F | 2.9 °F                                    |                                                                                           |
|                                    | Type N              |                                           |                                                                                           |
|                                    | (100 to 248) °F     | 2 °F                                      |                                                                                           |
|                                    | (248 to 1 400) °F   | 2.1 °F                                    |                                                                                           |
|                                    | (1 400 to 2 372) °F | 3.1 °F                                    |                                                                                           |
|                                    | Type T              |                                           |                                                                                           |
|                                    | (-320 to 0) °F      | 2.4 °F                                    |                                                                                           |
|                                    | (0 to 400) °F       | 2.1 °F                                    |                                                                                           |

### Thermodynamic

| Parameter / Equipment                       | Range               | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment                                               |
|---------------------------------------------|---------------------|-------------------------------------------|-------------------------------------------------------------------------------------------|
| Temperature Uniformity Surveys <sup>1</sup> | Type K              |                                           | Calibration by Comparison to Universal Calibrator / Multipoint Data Logger per AMS-2750H. |
|                                             | (100 to 248) °F     | 1.8 °F                                    |                                                                                           |
|                                             | (248 to 1 600) °F   | 1.8 °F                                    |                                                                                           |
|                                             | (1 600 to 2 502) °F | 2.9 °F                                    |                                                                                           |
|                                             | Type N              |                                           |                                                                                           |
|                                             | (100 to 248) °F     | 2 °F                                      |                                                                                           |
|                                             | (248 to 1 400) °F   | 2.1 °F                                    |                                                                                           |
|                                             | (1 400 to 2 372) °F | 3.2 °F                                    |                                                                                           |

### Work performed at Satellite Location Aerospace Testing & Pyrometry, Inc. Calibration Lab

825 Archer Road  
Bedford, OH 44146  
Dale T. Praznik 844-828-7225

### Electrical – DC/Low Frequency

| Parameter / Equipment               | Range                                                        | Expanded Uncertainty of Measurement (+/-)                                                       | Reference Standard, Method and/or Equipment                           |
|-------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| DC Current – Source <sup>2</sup>    | Up to 100 mA                                                 | 1 $\mu$ A /A + 7.4 $\mu$ A                                                                      | Calibration by Comparison to Fluke 7526A Calibrator.                  |
| DC Current – Measure <sup>2</sup>   | Up to 100 mA                                                 | 0.5 $\mu$ A/A + 4.8 $\mu$ A                                                                     | Calibration by Comparison to Keysight 3458A-002 8.5 Digit Multimeter. |
| RTD Temperature Meters <sup>2</sup> |                                                              |                                                                                                 |                                                                       |
| Source                              | Pt 385, 100 $\Omega$ - Source<br>(-328 to 1 472) °F          | 0.15 °F                                                                                         | Calibration by Comparison to Fluke 7526A Calibrator.                  |
| Measure                             | PT 385, 100 $\Omega$ - Measure<br>(-328 to -112) °F          | 0.11 °F                                                                                         |                                                                       |
|                                     | (-112 to 212) °F                                             | 0.09 °F                                                                                         |                                                                       |
|                                     | (212 to 752) °F                                              | 0.1 °F                                                                                          |                                                                       |
|                                     | (752 to 1 116) °F                                            | 0.1 °F                                                                                          |                                                                       |
|                                     | (1 116 to 1 472) °F                                          | 0.11 °F                                                                                         |                                                                       |
| DC Volts – Source <sup>2</sup>      | Up to 100 mV<br>(> 0 to 1) V<br>(1 to 10) V<br>(10 to 100) V | 3 $\mu$ V/V + 4.4 $\mu$ V<br>10 $\mu$ V/V + 39 $\mu$ V<br>0.1 mV/V + 0.39 mV<br>1 mV/V + 3.9 mV | Calibration by Comparison to Fluke 7526A Calibrator.                  |

**Electrical – DC/Low Frequency**

| Parameter / Equipment                         | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Expanded Uncertainty of Measurement (+/-)                                                                                                                                                                                                              | Reference Standard, Method and/or Equipment                                |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| DC Volts – Measure <sup>2</sup>               | Up to 100 mV<br>(> 0 to 1) V<br>(1 to 10) V<br>(10 to 100) V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.3 $\mu$ V/V + 1.4 $\mu$ V<br>0.3 $\mu$ V/V + 5.3 $\mu$ V<br>0.5 $\mu$ V/V + 84 $\mu$ V<br>30 $\mu$ V/V + 0.72 mV                                                                                                                                     | Calibration by Comparison to Keysight 3458A-002 8.5 Digit Multimeter.      |
| Thermocouple Indicators – Source <sup>2</sup> | Type B<br>(392 to 572) °F<br>(572 to 1 112) °F<br>(1 112 to 1 472) °F<br>(1 472 to 2 822) °F<br>(2 822 to 3 308) °F                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.62 °F<br>0.52 °F<br>0.75 °F<br>0.61 °F<br>0.5 °F                                                                                                                                                                                                     | Calibration by Comparison to Fluke 7526A Calibrator and Xitron 2000MN VAT. |
| Thermocouple Indicators – Source <sup>2</sup> | Type C<br>(32 to 1 832) °F<br>(1 832 to 3 272) °F<br>(3 272 to 3 632) °F<br>(3 632 to 4 201) °F<br>Type E<br>(-418 to -328) °F<br>(-328 to -148) °F<br>(-148 to 32) °F<br>(32 to 1 112) °F<br>(1 112 to 1 832) °F<br>Type J<br>(-346 to -148) °F<br>(-148 to 1 472) °F<br>(1 472 to 2 192) °F<br>Type K<br>(-418 to -328) °F<br>(-328 to -148) °F<br>(-148 to 932) °F<br>(932 to 1 472) °F<br>(1 472 to 2 502) °F<br>Type N<br>(-418 to -328) °F<br>(-328 to -148) °F<br>(-148 to 32) °F<br>(32 to 932) °F<br>(932 to 1 472) °F<br>(1 472 to 2 372) °F | 0.38 °F<br>0.51 °F<br>0.58 °F<br>0.76 °F<br>0.55 °F<br>0.3 °F<br>0.24 °F<br>0.22 °F<br>0.27 °F<br>0.34 °F<br>0.22 °F<br>0.27 °F<br>0.98 °F<br>0.37 °F<br>0.27 °F<br>0.26 °F<br>0.32 °F<br>1.6 °F<br>0.51 °F<br>0.3 °F<br>0.29 °F<br>0.28 °F<br>0.31 °F | Calibration by Comparison to Fluke 7526A Calibrator.                       |

**Electrical – DC/Low Frequency**

| Parameter / Equipment                           | Range               | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment                                |
|-------------------------------------------------|---------------------|-------------------------------------------|----------------------------------------------------------------------------|
| Thermocouple Indicators – Source <sup>2</sup>   | Type R              |                                           | Calibration by Comparison to Fluke 7526A Calibrator.                       |
|                                                 | (-58 to -13) °F     | 1.2 °F                                    |                                                                            |
|                                                 | (-13 to 32) °F      | 0.96 °F                                   |                                                                            |
|                                                 | (32 to 212) °F      | 0.83 °F                                   |                                                                            |
|                                                 | (212 to 752) °F     | 0.61 °F                                   |                                                                            |
|                                                 | (752 to 1 112) °F   | 0.5 °F                                    |                                                                            |
|                                                 | (1 112 to 1 832) °F | 0.48 °F                                   |                                                                            |
|                                                 | (1 832 to 2 912) °F | 0.44 °F                                   |                                                                            |
|                                                 | (2 912 to 3 213) °F | 0.51 °F                                   |                                                                            |
|                                                 | Type S              |                                           |                                                                            |
|                                                 | (-58 to -13) °F     | 1.1 °F                                    |                                                                            |
|                                                 | (-13 to 32) °F      | 0.91 °F                                   |                                                                            |
|                                                 | (32 to 212) °F      | 0.81 °F                                   |                                                                            |
|                                                 | (212 to 752) °F     | 0.63 °F                                   |                                                                            |
|                                                 | (752 to 1 112) °F   | 0.51 °F                                   |                                                                            |
|                                                 | (1 112 to 1 832) °F | 0.5 °F                                    |                                                                            |
|                                                 | (1 832 to 2 912) °F | 0.5 °F                                    |                                                                            |
|                                                 | (2 912 to 3 213) °F | 0.58 °F                                   |                                                                            |
|                                                 | Type T              |                                           |                                                                            |
|                                                 | (-418 to -326) °F   | 0.76 °F                                   |                                                                            |
|                                                 | (-326 to -148) °F   | 0.37 °F                                   |                                                                            |
|                                                 | (-148 to 32) °F     | 0.28 °F                                   |                                                                            |
|                                                 | (32 to 392) °F      | 0.25 °F                                   |                                                                            |
|                                                 | (392 to 752) °F     | 0.24 °F                                   |                                                                            |
| Thermocouple Calibrators – Measure <sup>2</sup> | Type B              |                                           | Calibration by Comparison to Fluke 7526A Calibrator and Xitron 2000MN VAT. |
|                                                 | (392 to 572) °F     | 0.79 °F                                   |                                                                            |
|                                                 | (572 to 1 112) °F   | 0.72 °F                                   |                                                                            |
|                                                 | (1 112 to 1 472) °F | 0.77 °F                                   |                                                                            |
|                                                 | (1 472 to 2 822) °F | 0.63 °F                                   |                                                                            |
|                                                 | (2 822 to 3 308) °F | 0.53 °F                                   |                                                                            |
| Thermocouple Calibrators – Measure <sup>2</sup> | Type C              |                                           | Calibration by Comparison to Fluke 7526A Calibrator.                       |
|                                                 | (32 to 1 832) °F    | 0.39 °F                                   |                                                                            |
|                                                 | (1 832 to 3 272) °F | 0.51 °F                                   |                                                                            |
|                                                 | (3 272 to 3 632) °F | 0.63 °F                                   |                                                                            |
|                                                 | (3 632 to 4 201) °F | 0.8 °F                                    |                                                                            |
|                                                 | Type E              |                                           |                                                                            |
|                                                 | (-418 to -328) °F   | 0.54 °F                                   |                                                                            |
|                                                 | (-328 to -148) °F   | 0.28 °F                                   |                                                                            |
|                                                 | (-148 to 32) °F     | 0.22 °F                                   |                                                                            |
|                                                 | (32 to 1 112) °F    | 0.2 °F                                    |                                                                            |
|                                                 | (1 112 to 1 832) °F | 0.26 °F                                   |                                                                            |

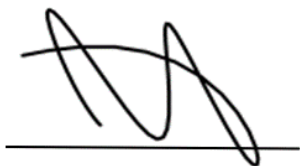
**Electrical – DC/Low Frequency**

| Parameter / Equipment                           | Range                       | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method and/or Equipment          |
|-------------------------------------------------|-----------------------------|-------------------------------------------|------------------------------------------------------|
| Thermocouple Calibrators – Measure <sup>2</sup> | Type J<br>(-346 to -148) °F | 0.32 °F                                   | Calibration by Comparison to Fluke 7526A Calibrator. |
|                                                 | (-148 to 1 472) °F          | 0.22 °F                                   |                                                      |
|                                                 | (1 472 to 2 192) °F         | 0.25 °F                                   |                                                      |
|                                                 | Type K<br>(-418 to -328) °F | 0.98 °F                                   |                                                      |
|                                                 | (-328 to -148) °F           | 0.36 °F                                   |                                                      |
|                                                 | (-148 to 932) °F            | 0.25 °F                                   |                                                      |
|                                                 | (932 to 1 472) °F           | 0.25 °F                                   |                                                      |
|                                                 | (1 472 to 2 502) °F         | 0.32 °F                                   |                                                      |
|                                                 | Type N<br>(-418 to -328) °F | 1.6 °F                                    |                                                      |
|                                                 | (-328 to -148) °F           | 0.5 °F                                    |                                                      |
|                                                 | (-148 to 32) °F             | 0.29 °F                                   |                                                      |
|                                                 | (32 to 932) °F              | 0.28 °F                                   |                                                      |
|                                                 | (932 to 1 472) °F           | 0.27 °F                                   |                                                      |
|                                                 | (1 472 to 2 372) °F         | 0.31 °F                                   |                                                      |
|                                                 | Type R<br>(-58 to -13) °F   | 1.2 °F                                    |                                                      |
|                                                 | (-13 to 32) °F              | 0.97 °F                                   |                                                      |
|                                                 | (32 to 212) °F              | 0.84 °F                                   |                                                      |
|                                                 | (212 to 752) °F             | 0.62 °F                                   |                                                      |
|                                                 | (752 to 1 112) °F           | 0.51 °F                                   |                                                      |
|                                                 | (1 112 to 1 832) °F         | 0.49 °F                                   |                                                      |
|                                                 | (1 832 to 2 912) °F         | 0.45 °F                                   |                                                      |
|                                                 | (2 912 to 3 213) °F         | 0.53 °F                                   |                                                      |
|                                                 | Type S<br>(-58 to -13) °F   | 1.1 °F                                    |                                                      |
|                                                 | (-13 to 32) °F              | 0.91 °F                                   |                                                      |
|                                                 | (32 to 212) °F              | 0.83 °F                                   |                                                      |
|                                                 | (212 to 752) °F             | 0.65 °F                                   |                                                      |
|                                                 | (752 to 1 112) °F           | 0.51 °F                                   |                                                      |
|                                                 | (1 112 to 1 832) °F         | 0.53 °F                                   |                                                      |
|                                                 | (1 832 to 2 912) °F         | 0.53 °F                                   |                                                      |
|                                                 | (2 912 to 3 213) °F         | 0.6 °F                                    |                                                      |
|                                                 | Type T<br>(-418 to -326) °F | 0.75 °F                                   |                                                      |
|                                                 | (-326 to -148) °F           | 0.38 °F                                   |                                                      |
|                                                 | (-148 to 32) °F             | 0.29 °F                                   |                                                      |
|                                                 | (32 to 392) °F              | 0.23 °F                                   |                                                      |
|                                                 | (392 to 752) °F             | 0.22 °F                                   |                                                      |

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ( $k=2$ ), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. Laboratory offers calibration services for Secondary Standard and Field Test Instruments at the laboratory's own facilities per the requirements of AMS 2750H.
3. Unless otherwise specified in the far-right column, the calibration procedure (method) utilized was developed internally.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. L2466.



Jason Stine, Vice President

