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.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 04 March 2023
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, 2023** Certificate Number: **L2446**

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Calibration of Process instruments[1]	(0 to 75) mV	9.3 µV + 6 µV/V	Millivolt simulation with Universal Calibrator per AMS-2750F
	(0 to 10) V	6.4 mV + 1 mV/V	Voltage simulation with Universal Calibrator per AMS-2750F
	(0 to 20) mA	8.9 µA + 2 µA/A	Milliamp simulation with Universal Calibrator per AMS-2750F
	Pt 100-385 (-320 to 1 400) °F	0.72 °F	RTD simulation with Universal Calibrator
	Type B (1 112 to 1 652) °F (1 652 to 2 102) °F (2 102 to 3 000) °F Type E (-200 to 1 600) °F Type J (0 to 932) °F (932 to 1 600) °F Type K (-200 to 1 922) °F (1 922 to 2 400) °F Type N (0 to 2 012) °F (2 012 to 2 372) °F	 2.5 °F 1.8 °F 1.5 °F 0.69 °F 0.68 °F 0.8 °F 0.8 °F 0.89 °F 0.8 °F 0.89 °F	Thermocouple simulation with Universal Calibrator per AMS-2750F

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Calibration of Process instruments[1]	Type R (0 to 482) °F (482 to 1 382) °F (1 382 to 2 192) °F (2 192 to 3 200) °F Type S (0 to 212) °F (212 to 752) °F (752 to 3 092) °F (3 092 to 3 200) °F Type T (-320 to -58) °F (-58 to 32) °F (32 to 750) °F	 2.7 °F 1.5 °F 1.3 °F 1.5 °F 2.7 °F 1.9 °F 1.5 °F 1.8 °F 1.3 °F 0.81 °F 0.69 °F	Thermocouple simulation with Universal Calibrator per AMS-2750F

Thermodynamic

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
System Accuracy Tests[1]	Type T (-320 to 0) °F (0 to 400) °F Type J (100 to 302) °F (302 to 1 000) °F	 2.4 °F 2.1 °F 1.8 °F 1.7 °F	Universal Calibrator/Multipoint Data Logger per AMS-2750F
System Accuracy Tests[1]	Type K (100 to 248) °F (248 to 1 600) °F (1 600 to 2 502) °F Type N (100 to 248) °F (248 to 1 400) °F (1 400 to 2 372) °F	 1.8 °F 1.8 °F 2.9 °F 2 °F 2.1 °F 3.1 °F	Universal Calibrator/Multipoint Data Logger per AMS-2750F
Temperature Uniformity Surveys[1]	Type T (-320 to 0) °F (0 to 400) °F Type J (100 to 248) °F (248 to 1 000) °F	 2.4 °F 2.1 °F 1.8 °F 1.7 °F	Universal Calibrator/Multipoint Data Logger per AMS-2750F

Thermodynamic

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

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[2]	(0 to 100) mA	7 µA + 1 µA/A	Calibration by Comparison to Fluke 7526A Calibrator
DC Current – Measure[2]	(0 to 100) mA	4.8 µA + 0.5 µA/A	Calibration by Comparison to Keysight 3458A-002
RTD Temperature Meters[2]	Pt 385 100Ω - Source (-328 to 1 472) °F PT 385 100 Ω - Measure (-328 to -112) °F (-112 to 212) °F (212 to 752) °F (752 to 1 116) °F (1 116 to 1 472) °F	 0.15 °F 0.1 °F 0.08 °F 0.09 °F 0.09 °F 0.1 °F	Calibration by Comparison to Fluke 7526A Calibrator
DC Volts – Source[2]	(0 to 100) mV (0 to 1) V (1 to 10) V (10 to 100) V	4 µV + 3 µV/V 38 µV + 10 µV/V 0.38 mV + 100 µV/V 3.8 mV + 1 mV/V	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[2]	(0 to 100) mV (0 to 1) V (1 to 10) V (10 to 100) V	1.4 µV + 0.3 µV/V 5.7 µV + 0.3 µV/V 87 µV + 0.5 µV/V 0.8 mV + 30 µV/V	Calibration by Comparison to Keysight 3458A-002
Thermocouple Indicators – Source [2]	Type B (392 to 572) °F (572 to 1 112) °F (1 112 to 1 472) °F (1 472 to 2 822) °F (2 822 to 3 308) °F	 0.62 °F 0.52 °F 0.75 °F 0.61 °F 0.5 °F	Calibration by Comparison to Fluke 7526A Calibrator and Xitron 2000MN VAT
Thermocouple Indicators – Source [2]	Type C (32 to 1 832) °F (1 832 to 3 272) °F (3 272 to 3 632) °F (3 632 to 4 201) °F Type E (-418 to -328) °F (-328 to -148) °F (-148 to 32) °F (32 to 1 112) °F (1 112 to 1 832) °F Type J (-346 to -148) °F (-148 to 1 472) °F (1 472 to 2 192) °F Type K (-418 to -328) °F (-328 to -148) °F (-148 to 932) °F (932 to 1 472) °F (1 472 to 2 502) Type N (-418 to -328) °F (-328 to -148) °F (-148 to 32) °F (32 to 932) °F (932 to 1 472) °F (1 472 to 2 372) °F	 0.38 °F 0.51 °F 0.58 °F 0.76 °F 0.55 °F 0.3 °F 0.24 °F 0.22 °F 0.27 °F 0.34 °F 0.24 °F 0.27 °F 0.98 °F 0.37 °F 0.27 °F 0.26 °F 0.32 °F 1.6 °F 0.51 °F 0.3 °F 0.29 °F 0.28 °F 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[2]	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	0.39 °F	
	(-148 to 32) °F	0.3 °F	
	(32 to 392) °F	0.28 °F	
	(392 to 752) °F	0.27 °F	
Thermocouple Calibrators – Measure [2]	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 [2]	Type C		Calibration by Comparison to Fluke 7526A Calibrator
	(32 to 1 832) °F	0.36 °F	
	(1 832 to 3 272) °F	0.5 °F	
	(3 272 to 3 632) °F	0.56 °F	
	(3 632 to 4 201) °F	0.75 °F	

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Thermocouple Calibrators – Measure [2]	Type E		Calibration by Comparison to Fluke 7526A Calibrator
	(-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	
	Type J		
	(-346 to -148) °F	0.32 °F	
	(-148 to 1 472) °F	0.22 °F	
	(1 472 to 2 192) °F	0.25 °F	
	Type K		
	(-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)	0.32 °F	
	Type N		
	(-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		
	(-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		
	(-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	

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Thermocouple Calibrators – Measure [2]	Type T (-418 to -326) °F (-326 to -148) °F (-148 to 32) °F (32 to 392) °F (392 to 752) °F	 0.75 °F 0.37 °F 0.28 °F 0.25 °F 0.25 °F	Calibration by Comparison to Fluke 7526A Calibrator

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 2750 F
3. This scope is formatted as part of a single document including Certificate of Accreditation No. L2466.

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