CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board
500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Tru-Cal, Inc.
11001 US 250 North, Unit B-12
Milan OH 44846

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations to which this accreditation applies.

L2090-1
Certificate Number

ANAB Approval

Certificate Valid: 08/02/2017-05/12/2019
Version No. 002 Issued: 08/02/2017

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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).

ANSI-ASQ National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Tru-Cal, Inc.
11001 US 250 North, Unit B-12
Milan OH 44846
Nathan Wright – natewright@tru-cal.com 317-402-0021
Jim Belavich – jimbelavich@tru-cal.com 419-202-1296

CALIBRATION

Valid to: **May 12, 2019** Certificate Number: **L2090-1**

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Millivolt Temperature Simulation	Type J		Calibrations performed with a Universal Thermocouple Calibrator or Equivalent and Electronic Thermometer
	(-346 to -292) °F	0.76 °F	
	(-292 to -58) °F	0.68 °F	
	(-58 to 932) °F	0.63 °F	
	(932 to 2 192) °F	0.6 °F	
	Type K		
	(-382 to -148) °F	1 °F	
	(-148 to 1 922) °F	0.9 °F	
	(1 922 to 2 500) °F	0.89 °F	
	Type R		
	(-1 to 482) °F	2.6 °F	
	(482 to 1 382) °F	1.5 °F	
	(1 382 to 2 912) °F	1.5 °F	
	(2 912 to 3 214) °F	1.4 °F	
	Type S		
	(-1 to 212) °F	2.6 °F	
	(212 to 752) °F	1.7 °F	
	(752 to 3 092) °F	1.5 °F	
	(3 092 to 3 214) °F	1.5 °F	
	Type N		
	(-382 to -292) °F	2.5 °F	
	(-292 to -58) °F	1.2 °F	
	(-58 to 2 012) °F	0.7 °F	
	(2 012 to 2 372) °F	0.64 °F	

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Millivolt Temperature Simulation	Type T (-436 to -328) °F (-328 to -58) °F (-58 to 32) °F (32 to 752) °F	 4.8 °F 1.5 °F 1.4 °F 1.3 °F	Calibrations performed with a Universal Thermocouple Calibrator or Equivalent and Electronic Thermometer

Thermodynamic

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Temperature System Accuracy Tests[1]	Type K (-382 to -148) °F (-148 to 1 922) °F (1 922 to 2 500) °F Type N (-382 to -292) °F (-292 to -58) °F (-58 to 2 012) °F (2 012 to 2 372) °F	 2.3 °F 2.1 °F 4.1 °F 3.8 °F 2.1 °F 2 °F 4 °F	Thermocouple Calibrator or Equivalent with reference Thermocouple wire in accordance with AMS 2750E
Temperature Uniformity Surveys[1]	Type K (-382 to -148) °F (-148 to 1 922) °F (1 922 to 2 500) °F	 1.9 °F 2.1 °F 4.1 °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. This scope is formatted as part of a single document including Certificate of Accreditation No. L2090-1.

Vice President