

ITEM 1206

Report Number: 80585

Calibration Date: 04/26/2018

Submitted By: Illiana Instrumentation Service Schererville, IN 46375

SO Number: 1256235

PO Number: 3849

Type S Thermocouple
 S24R-18-3

Tolerance: ASTM E230/E230M-12 Standard Tolerance

Item	Serial No	Target (°F)	Actual (°F)	Reading (°F)	Correction (°F)	Tolerance (°F)	Status	Immersion (in)	Uncertainty (°F)
1	Ref 1206	0	-0.3	0.1	-0.4	N/A	As Found	6	1.0
		200	199.9	200.1	-0.2	± 2.7	In Tolerance	6	1.0
		400	399.9	399.9	0.0	± 2.7	In Tolerance	6	1.0
		600	600.0	599.5	0.5	± 2.7	In Tolerance	8	1.0
		800	799.8	798.7	1.1	± 2.7	In Tolerance	17	1.4
		1000	999.6	998.5	1.1	± 2.7	In Tolerance	17	1.4
		1200	1199.6	1198.7	0.9	± 2.9	In Tolerance	17	1.4
		1400	1401.4	1400.7	0.7	± 3.4	In Tolerance	17	1.4
		1600	1599.5	1598.8	0.7	± 3.9	In Tolerance	17	1.4
		1800	1800.0	1799.1	0.9	± 4.4	In Tolerance	17	1.4
		2000	2001.7	2000.4	1.3	± 4.9	In Tolerance	17	1.4

Remarks: No published tolerance for standard limits Type S material at 0 °F.

The correction must be added algebraically to the UUT reading to obtain the correct value.

Equipment and Standards Used

ID Number	Manufacturer	Model	Description	Calibration Due
03-2398	Hart Scientific	5626	IPRT Working Standard	06/02/2018
03-2787	Agilent	3458A	8 1/2 Digit Digital Multimeter	08/31/2018
03-3471	Pyromation	SPEC 621-00	Type S Reference Standard	08/05/2018

Environmental Conditions at time of Calibration: Temperature: 22 °C [72 °F] Relative Humidity: 26%

Procedure Used: WI-525-37 Rev 5 which is based, in part on ASTM E220-13

As Found: In Tolerance

As Left: In Tolerance

Calibration performed by:  Lindi Bunn, Metrology Technician

The temperatures written in this report are those defined by the International Temperature Scale of 1990 (ITS-90).

The combined standard uncertainty includes the standard uncertainty reported for the standard, and the measurement process. No allowance is included in the uncertainty for thermocouple drift and inhomogeneity. The combined standard uncertainty is multiplied by a coverage factor of 2 to give an expanded uncertainty, which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the JCGM100:2008 Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. Uncertainties are not included in the determination of acceptance.

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded in accordance with the rounding method of ASTM Practice E29-13

The standards of Pyromation Laboratory are traceable to the International System of Units (SI) through NIST or other National Metrology Institute, and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory report number identified above is the unique report number to be used in referencing measurement traceability for the items identified in this report only.

This calibration is compliant to ISO/IEC 17025:2005. This calibration report applies only to the items described. It must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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