



AEROSPACE INFORMATION REPORT

AIR46™

REV. C

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Superseding AIR46B

The Preparation and Use of Thermocouples for Aircraft Gas Turbine Engines

RATIONALE

AIR46C has been revised to incorporate the contents of AIR46B with three other documents to create a single comprehensive report covering thermocouples. The details of the other three documents are as follows:

- AIR65: Thermoelectric Circuits and the Performance of Several Aircraft
- ARP690: Standard Exposed Junction Thermocouple for Controlled Conduction Errors in Measurement of Air of Exhaust Gas Temperature
- ARP691: Recommended Ice Bath for Reference Junctions

Due to the availability of similar and more up-to-date information in the public domain, together with the extensive effort required, the original material has not been brought up to date.

Upon publication of AIR46C, the three superseded documents—AIR65, ARP690, and ARP691—will be cancelled. This strategy was agreed by the SAE E-32 committee in accordance with the Committee Master Plan.

FOREWORD

This document, originally prepared in 1956, was reviewed by industry and committee members between 1983 and 1988. Those who reviewed it generally agreed that the document, with minor changes, would continue to be a useful industry reference. Changes were limited to updating the list of references, as well as to exhibit temperatures in both °F and °C.

Changes made in 1996 were format/editorial only.

Changes made in 2021 to incorporate the content of AIR65, ARP690, and ARP691, thus rendering these three documents obsolete. These changes combine the detail relating to the use of thermocouples for aircraft gas turbine engines with the detail on the thermo-electric circuits of the thermocouple systems used in gas turbines and the associated errors of such circuits.

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TABLE OF CONTENTS

1.	SCOPE.....	4
1.1	Purpose.....	4
2.	REFERENCES.....	4
2.1	Applicable Documents.....	4
2.1.1	NIST Publications.....	4
2.1.2	ASTM Publications.....	4
2.1.3	ANSI Accredited Publications.....	5
2.1.4	ASME Publications.....	5
2.1.5	Other Publications.....	5
2.2	Abbreviations.....	6
3.	THERMO-ELECTRIC CIRCUITS.....	7
3.1	Using EMF Tables.....	8
3.2	Basic Thermoelectric Loop.....	9
3.3	Net EMF of Material in Temperature Gradient.....	12
3.4	Net EMF Determined via Graphical Method.....	13
3.5	Error from Misplacement of Circuit in Temperature Gradient.....	15
4.	THERMOCOUPLE MATERIALS.....	17
5.	CIRCUITRY FOR HIGHEST ACCURACY.....	18
5.1	Lead Wires and Terminals.....	18
5.2	The Reference or Cold Junction.....	18
5.3	Automatic Cold-Junction Compensation.....	20
5.4	The Selector Switch.....	20
6.	PROCURING AND CALIBRATING THERMOELEMENTS.....	20
6.1	Specification of Thermocouple Wire.....	20
6.2	Methods of Making Thermocouple Junctions.....	20
6.3	Calibration of Thermocouple Wire.....	21
7.	INDICATING AND MEASURING INSTRUMENTS.....	22
7.1	Analog Millivoltmeters.....	22
7.2	Digital Millivoltmeters.....	22
7.3	Servo-Driven Indicators.....	22
7.4	Potentiometers.....	23
8.	CORRECTIONS APPLICABLE TO GAS TURBINE THERMOCOUPLES.....	23
8.1	Conduction Correction.....	23
8.2	Heat Gain by Convection.....	25
8.3	Radiation Correction.....	25
8.4	Impact Effect.....	26
8.5	Response Time or Time Constant.....	27
9.	LABORATORY EVALUATION OF THERMOCOUPLE PERFORMANCE.....	27
9.1	Correction for Radiation and Conduction.....	28
9.2	Determination of Recovery Factor.....	31
9.3	Determination of Characteristic Time.....	32
10.	LOCATING THE MEASURING JUNCTION.....	34
11.	PARALLEL THERMOCOUPLE NETWORKS.....	35
11.1	Common-Terminal Systems.....	35
11.2	Ladder-Type Systems.....	37
11.3	Electrical Analogue for Parallel-Thermocouple Networks.....	39

11.4	Connections Between Thermocouples and Harness.....	40
12.	POSSIBLE EFFECTS OF FABRICATION ON GAS TURBINE THERMOCOUPLE PERFORMANCE	40
12.1	Mechanical Working.....	40
12.2	Moisture, Fuel, and Sulphur in the Magnesia	41
12.3	Terminal Connectors for Thermocouples.....	42
13.	THERMOCOUPLE PERFORMANCE.....	43
13.1	For Initial Calibration and Stability After Use	43
13.2	With Commercially Available Equipment	46
14.	REFERENCE DATA ON K _p AND K _n AND ON THE TEMPERATURE SCALE.....	47
14.1	Composition	47
14.2	Processing	47
14.3	Physical Properties	47
14.4	Stability in Service.....	48
14.5	Thermocouple Lead Wire.....	49
14.6	The International Practical Temperature Scale	49
15.	NOTES.....	49
Figure 1	EMF in a thermoelectric loop	8
Figure 2	Thermoelectric loop without standard reference temperature	9
Figure 3	Uniform temperature zone box	9
Figure 4	Connector induced thermocouple error	11
Figure 5	EMF-temperature relationship of various materials	12
Figure 6	Dissimilar thermocouple and leads circuit.....	13
Figure 7	Graphical solution for the NET EMF of a compound circuit.....	14
Figure 8	Slip ring thermocouple installation	15
Figure 9	Thermocouple travelling through a thermal furnace	16
Figure 10	Recommended reference junction at ice point	19
Figure 12	Effect of immersion on conductor error.....	25
Figure 13	Composite diagram of supplementary test facilities	28
Figure 14	NBS laboratory standard for determining the combined correction for conduction and radiation	29
Figure 15	Combined effect of radiation and impact on the performance of a bare thermocouple with r = 0.65, T _w = 1000 °F, at a static pressure of one atmosphere	32
Figure 16	Apparatus used at NBS for determining characteristic time	33
Figure 17	Variation of characteristic time with wire size and with mass velocity	34
Figure 18	Common-terminal system	36
Figure 19	Ladder-type system.....	37
Figure 20	Schematic of analog for parallel networks	39
Figure 21	Schematic of apparatus for evaluating engine thermocouples.....	43
Figure 22	Typical results obtained with two engine couples	45
Table 1	Maximum temperature for bare wire thermocouples	17
Table 2	Limits of temperature-EMF variation.....	17
Table 3	Thermocouple materials and type designations	21
Table 4	Total temp minus static temp as a function of velocity	27
Table 5	Combined correction for conduction and radiation of a bare loop type thermocouple	30
Table 6	Physical properties of K _p and K _n	47
Table 7	Coefficient of resistivity for K _p and K _n	48
Table 8	Thermal conductivity for K _p and K _n	48
Table 9	International practical temperature scale fixed points for gas turbine engine thermocouples.....	49