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REFERENCE TABLES FOR THE PALLADIUM VS PLATINUM – 15% IRIDIUM THERMOCOUPLE

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FOREWORD

This report was prepared at the National Bureau of Standards, Washington, D. C. on Air Force Delivery Order No. (33-616)57-5, Amendment 4(60-130), Project 0(12-3066), Task 30245. The work was administered under direction of the Power Plant Laboratory, Wright Air Development Division with initially Mr. John W. Fulton and finally Mr. Elmer E. Buchanan acting as project engineer for the laboratory. The current contract is No. AF33(616) 61-01, Project No. 2(1-3066), Task No.306602, under the direction of the Propulsion Laboratory, Aeronautical Systems Division.

The palladium vs platinum-15% iridium thermocouples for the calibration were supplied by Mr. L. J. Stiles of the General Electric Company. This type of thermocouple was developed by the General Electric Company to meet the need for a sensor for temperature measurement and control up to 2300°F with a large thermoelectric output.

The authors acknowledge with appreciation the cooperation and assistance of Mrs. Minnie R. Massie and Mrs. Janet T. Davis of the Temperature Physics Section, Heat Division, who are responsible for the portion of the table below 32°F, of Messrs. Stanley B. Prusch and Vernon Dantzler of the Computation Section of the Applied Mathematics Division who provided the data for the tables from the observations supplied, and of Mrs. Beulah De Wane who arranged and typed the manuscript and the extensive tables which are the heart of this report.

ABSTRACT

The purpose of the development of the palladium vs platinum-15% iridium (PPI) thermocouple was for measurement of temperatures up to 2300°F, and to obtain a high thermal sensitivity in this range.

Comprehensive calibration tables have been prepared giving the thermal emf of the palladium versus platinum-15% iridium thermocouple system in the temperature range from -80° to 2550°F. These expanded tables are given in both degrees Celsius and Fahrenheit at intervals of one degree as the argument. Conversely, similar tables using electromotive force at intervals of 10 microvolts as the argument are presented. It is believed that these expanded calibration tables give thermal emf values better than 0.1% for the six thermocouples examined.

Some other information includes a table of the observed temperature-emf relationship of the PPI negative element palladium vs platinum Pt 27, and of the positive element platinum-15% iridium vs platinum Pt 27.

The method used in calibrating the thermocouples in the range 32° to 2550°F is described briefly.

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REFERENCE TABLES FOR THE PALLADIUM VS PLATINUM-15% IRIDIUM THERMOCOUPLE

I. INTRODUCTION

The palladium vs platinum-15% iridium (PPI) thermocouple was developed by the General Electric Company [1] for the Air Force as a reliable sensor for temperatures up to 2300°F. This temperature is above the maximum limit for continuous use of the conventional base-metal thermocouples. The popular and reliable platinum vs platinum-10% rhodium thermocouples are suitable in this temperature range, but their low thermoelectric output and high cost have precluded their use in engines. The PPI thermocouple has an output at 2300°F that is about 80 percent of that of the base-metal thermocouple and is said to be somewhat less expensive than the platinum-10% rhodium thermocouple.

[1] A jet engine thermocouple system for measuring temperature up to 2300°F, Michael E. Ihnat, The General Electric Company WADC Technical Report 57-744, December 1957.

The stability of the PPI thermocouple is described in reference [1] as a deviation of "not . . . more than ±0.5 percent when subjected to an oxidizing atmosphere for more than 400 hours in the 1800° to 2300°F (982° to 1260°C) temperature range". This stability, coupled with the other favorable characteristics of this thermocouple, looked promising, and development of a reference curve was undertaken at the National Bureau of Standards under the sponsorship of the Wright Air Development Division.

Six thermocouples were supplied by the General Electric Company for this purpose. Observations were made on all six thermocouples from 32° to 2550°F, and on two in the range of -80° to +32°F. Data on only two in the low range seemed adequate, because from these thermocouples and others examined previously the differences between calibrations of sensors in the low range are so small as to be inappreciable.

II. DESCRIPTION AND COMPOSITION OF PPI THERMOCOUPLES

Each thermoelement of the six PPI thermocouples submitted for calibration was about 0.041 inch in diameter, and approximately 30 inches long. The elements of each thermocouple were located in a 9-inch length of a high temperature porcelain insulator. The thermocouple junctions protruded 7/16 inch beyond their insulator tubes. For purposes of identification these thermocouples were numbered one through six.

The nominal composition of the elements of this thermocouple system is mentioned by the supplier as follows:

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(a) Negative element is chemically pure palladium; and

(b) Positive element is 85% platinum + 15% iridium.

III. ANNEALING PROCEDURE

Some observations were taken at the request of the General Electric Company on each thermocouple at a temperature of 1400°F only in the as-received condition, but all thermocouples were annealed before taking observations to be used for the reference table. The two elements were cut apart to permit different annealing procedures for them. According to instructions received from the General Electric Company, the platinum-15% iridium elements were annealed at a true temperature of 2372°F (1300°C) in air for 1 minute. Appropriate corrections to observations made with an optical pyrometer take account of the emissivity, of about 30 percent of the platinum-15% iridium wires.

Instructions on annealing the palladium wires were to heat them to 1382°F (750°C) for 25 minutes. A dark coating, assumed to be a surface oxide, appeared on the wires at this temperature. To remove this coating, these wires were flashed to about 1820°F apparent temperature, and then were returned to the prescribed temperature, where they were held for 25 minutes. The dark coating was removed by this treatment, but after 25 minutes of heating at the recommended temperature the wires assumed a grayish color.

IV. TEST PROCEDURE AND APPARATUS

The equipment used for this work was of the conventional types. For observations above 32°F, a specially built platinum-wound porcelain tube furnace was used. The tube was about 14 inches long, about 1/2-inch inside diameter, with a bifilar noninductive winding of 0.6-mm platinum wire along its length. The temperature along the tube was extremely uniform for the central 10 inches or so, and constancy of temperature was attained through the use of a regulator that is said to provide a voltage constant to 0.01 percent. The furnace tube was insulated with about 3 inches of unfused alumina contained in a stainless steel shell. The ends of the insulation container and furnace tube support were of transite.

A platinum vs platinum-10% rhodium thermocouple was the standard comparison in all measurements of the temperature-emf relationships of the PPI thermocouples above 32°F. This standard was calibrated before use and after each set of determinations. Calibrations were made against a platinum vs platinum-10% rhodium thermocouple that had a primary calibration, and was kept especially for this work. Instead of using the normal calibration techniques, greater accuracy was attained by calibrating the working standard element for element against the primary standard, i.e. the platinums against each other and the alloy wires also. In addition the temperature-emf relations were determined for each element of the working standard against platinum Pt 27. As a result, all values of thermal emf of the individual elements of the PPI thermocouple system can be referred to the platinum

standard, Pt 27, maintained at the National Bureau of Standards. The thermal emf of the working standard did not change more than 4.4 microvolts during three complete sets of observations. The greater part of this total change took place during the initial calibrations, and checks after the second and third sets of observations showed only very small changes in the standard. A Leeds and Northrup type K-3 potentiometer was used for all measurements of emf and, of course, all reference junctions were at 32°F in properly prepared and maintained ice baths.

During the tests, the standard and two PPI thermocouples were threaded in 2- and 4-hole porcelain insulators, respectively. These two insulator tubes were lashed together with platinum wire, and the junctions of the standard and two test thermocouples were welded together. This system was then inserted about 8 inches in the furnace, and with immersion in the zone of uniform temperature of at least 6 inches, effects of conduction along the wires and tubes were practically nonexistent. Ends of the furnace tube were plugged to avoid effects of drafts in the room.

In taking observations above 32°F, initial readings were taken at room temperature, the furnace temperature was then regulated to be constant at 100°F, and observations were taken on both the standard and test thermocouples. This was repeated at intervals of 50°F up to 2300°F, after which a repeat reading was taken at the top temperature. Readings then were taken in a descending order at intervals of 50°F down to 100°F.

After this series taken in order to have the complete set of ascending and descending values unaffected by exposure to temperatures above 2300°F, another series from 2300° to 2550°F in steps of 50°F was taken, and these operations were repeated in a descending order to 2300°F.

Observations below 32°F were taken in the Temperature Physics Section, Heat Division of the National Bureau of Standards, and their cooperation is gratefully acknowledged. Measurements were made in a stirred bath of a cryogenic liquid, and the standards and techniques used were such that the table probably is most accurate from -80° to 32°F, the range in which calibrations were made by the Temperature Physics Section. Because of the nearly exact agreement between thermocouples calibrated in this range, from both this and previous lots, only two thermocouples, 3 and 4, were selected at random for calibration in the low range.

V. RESULTS AND DISCUSSION

The principal results of this work are the reference tables 3, 4, 5, and 6. Some other information arising from the experiments are of interest, however, and are presented.

As requested by the General Electric Company, comparisons were made between the emfs at a temperature of 1400°F at General Electric and NBS in the as-received condition of six thermocouples. These comparisons follow in table 1.

Table 1

Comparison of National Bureau of Standards and General Electric Company Calibrations of Six Thermocouples

Thermocouple No.	Emf Output at 1400°F		NBS Minus GE Emf	
	NBS	GE	μv	°F
1	20.905	20.871	34	1.7
2	20.920	20.876	44	2.2
3	20.932	20.879	53	2.7
4	20.895	20.879	16	0.8
5	20.900	20.859	41	2.1
6	20.904	20.887	17	0.9

The NBS check measurements at a temperature of 1400°F show the emf of each thermocouple to be slightly greater than that of the General Electric Company at this temperature. This may be a result of cold working of the wires or of different test procedures between the two laboratories. Even so, the maximum difference between the two laboratories at 1400°F is 2.7°F or less than 0.2 percent. When compared to the regular tolerance of 3/4 percent for the conventional base-metal thermocouples, or 3/8 percent for selected wires, this difference is seen to be relatively small. The minimum difference found is only 0.8°F or about 0.05 percent, which is very close agreement.

The degree of agreement between the six thermocouples after annealing and calibration is seen in figure 1. This shows the deviations of the individual measurements of six thermocouples from the values shown in table 6. The individual measurements are averages of readings taken in ascending and descending order. The maximum spread between any two thermocouples is seen to range from 11 microvolts at 500°F to 66 microvolts at 2500°F. These values correspond to 0.8° at 500°F, and 2.8° at 2500°F. In part these deviations are due to differences in the thermocouples. The variations are small, however, about 0.16 percent at 500°F and 0.11 percent at 2500°F. Table 6 thus provides a reference table that is probably better than 0.1 percent for the thermocouples examined. As mentioned before only two thermocouples were calibrated in the temperature range of -80° to +32°F, and these showed excellent agreement.

The expanded reference tables are arranged in the following manner. Table 3 gives the electromotive force in millivolts with the corresponding temperatures in degrees Celsius (Centigrade), and conversely table 4 gives degrees Celsius and corresponding emfs in millivolts. Similar tables 5 and 6 were prepared with the temperature given in degrees Fahrenheit. The tables give the temperature-emf equivalents for the PPI thermocouple in

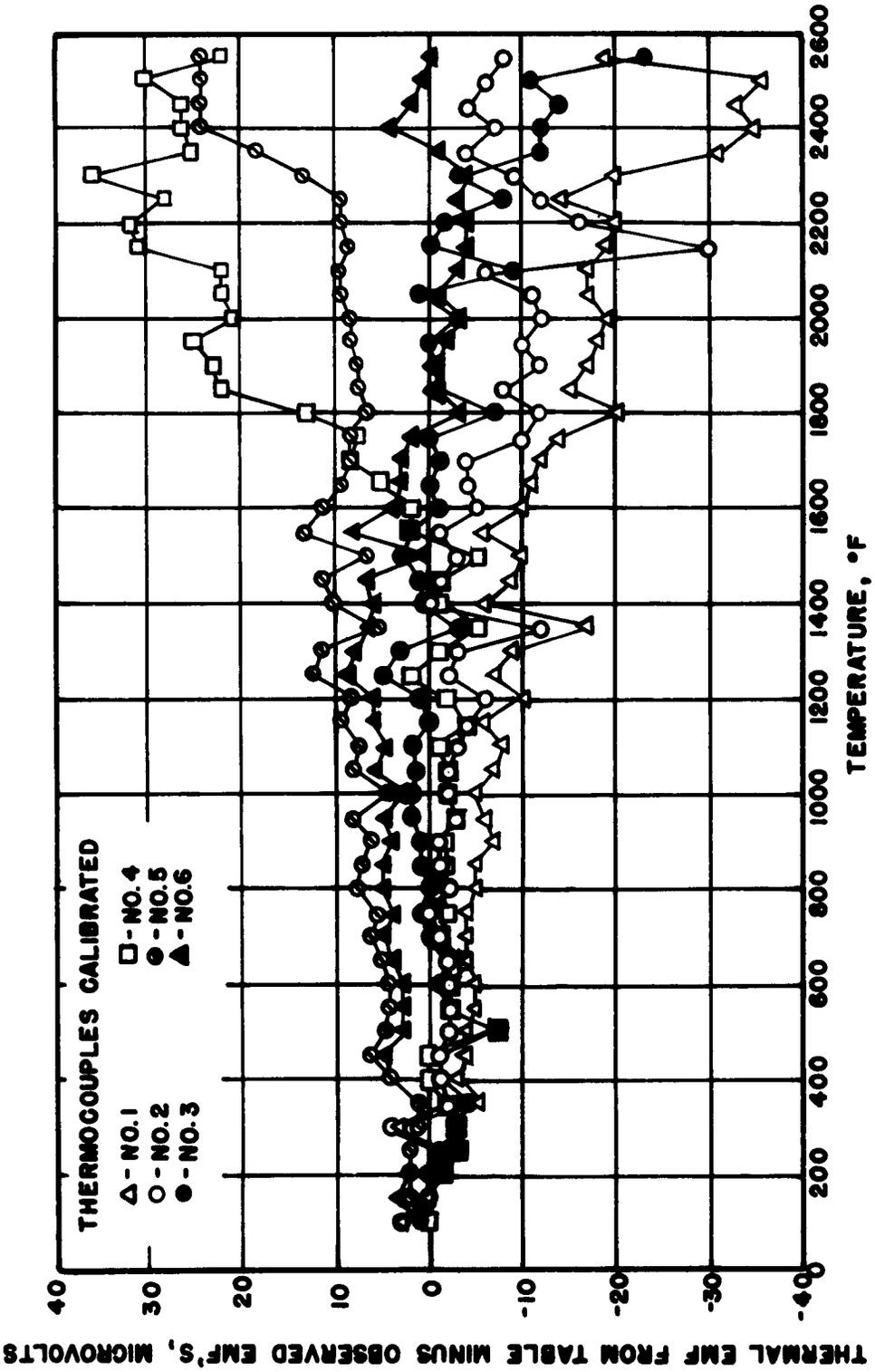

FIGURE 1 DIFFERENCE PLOTS SHOWING CALIBRATION PERFORMANCE OF PALLADIUM VS PLATINUM-15% IRIDIUM THERMOCOUPLES

degrees Fahrenheit and in degrees Celsius at one degree intervals. In the other two tables, the electromotive force as the argument is given at intervals of 10 microvolts. These intervals are small enough that for most uses, particularly in the upper temperature range, the tables may be used practically without interpolation. All tables are based upon the absolute electrical units and the International Temperature Scale of 1948.

The assistance of the Computation Section of the Applied Mathematics Division of the National Bureau of Standards with the use of their "704 Black Box Computer Service" in making the necessary computations for the comprehensive edition of the reference tables is gratefully acknowledged.

In the use of these tables, small apparent inconsistencies will be found. These small differences result from rounding, and have been allowed to remain. It is believed these negligible differences will not exceed more than 2 microvolts for a given temperature in the four tables.

On referring to table 6, it can be seen the thermoelectric power (dE/dT) (where E is thermal emf and T is temperature) is low, about 14 microvolts per degree Fahrenheit at a temperature of 500°F, but increases and approximates that of the conventional base-metal thermocouples in the region of 1700°F and surpasses it in the higher temperature range. The thermoelectric power is about 23 to 24 microvolts per degree Fahrenheit in the temperature range of 1900° to 2550°F.

Observations of emf of each element of the PPI thermocouple system against the platinum element of the working standard were taken throughout the calibration runs. As mentioned previously, a relationship was established between the working platinum element and platinum Pt 27. Table 2 gives the temperature-emf relations of platinum-15% iridium against Pt 27, and of palladium against Pt 27.

The temperature-emf relationships presented in this table are averaged normalized values derived from the data of elements of all six thermocouples. The difference of these unsmoothed thermal emfs of the individual elements of the PPI thermocouple system against platinum agrees with the thermocouple emf found in table 6 within several microvolts at most temperatures. However, a few larger differences exist but they are not greater than 7 microvolts. The reference tables were of course, prepared from the PPI thermocouple outputs.

VI. CONCLUSIONS

Comprehensive reference tables for the palladium vs platinum-15% iridium thermocouple system have been determined. Since the primary purpose for the development of the PPI thermocouple, from WADC TR 57-744, appears to have been to extend the range over that of conventional base-metal sensors, that purpose has been accomplished by the palladium vs platinum-15% iridium thermocouple with no loss, and even a slight gain of sensitivity in the temperature range of particular interest, 1900° to 2300°F.

Table 2

Thermal Emf of Palladium vs Platinum-15% Iridium
Thermoelements Relative to Standard Pure Platinum (NBS Pt 27)

Temp. °F	Platinum-15% Iridium Millivolts	Palladium Millivolts	Temp. °F	Platinum-15% Iridium Millivolts	Palladium Millivolts
32	0.000	0.000	1350	13.131	-6.785
100	0.501	-0.204	1400	13.692	-7.218
150	0.895	-0.360	1450	14.253	-7.661
200	1.309	-0.521	1500	14.818	-8.122
250	1.740	-0.688	1550	15.386	-8.593
300	2.190	-0.861	1600	15.950	-9.080
350	2.651	-1.039	1650	16.528	-9.577
400	3.124	-1.224	1700	17.099	-10.087
450	3.604	-1.413	1750	17.679	-10.608
500	4.094	-1.611	1800	18.258	-11.142
550	4.592	-1.817	1850	18.844	-11.688
600	5.096	-2.034	1900	19.422	-12.245
650	5.607	-2.259	1950	20.010	-12.812
700	6.124	-2.496	2000	20.592	-13.390
750	6.644	-2.743	2050	21.183	-13.976
800	7.168	-3.004	2100	21.768	-14.571
850	7.696	-3.276	2150	22.356	-15.177
900	8.226	-3.561	2200	22.943	-15.787
950	8.759	-3.860	2250	23.526	-16.403
1000	9.296	-4.173	2300	24.103	-17.033
1050	9.838	-4.502	2350	24.681	-17.665
1100	10.382	-4.846	2400	25.262	-18.306
1150	10.928	-5.204	2450	25.840	-18.954
1200	11.475	-5.577	2500	26.413	-19.603
1250	12.028	-5.966	2550	26.989	-20.266
1300	12.579	-6.368			

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
-0.900	-54.7	-55.3	-56.0	-56.7	-57.4	-58.1	-58.8	-59.4	-60.1	-60.8	-61.5	-0.900
- .800	-48.0	-48.7	-49.3	-50.0	-50.7	-51.3	-52.0	-52.7	-53.3	-54.0	-54.7	- .800
- .700	-41.7	-42.3	-42.9	-43.6	-44.2	-44.8	-45.5	-46.1	-46.8	-47.4	-48.0	- .700
- .600	-35.4	-36.0	-36.6	-37.3	-37.9	-38.5	-39.1	-39.8	-40.4	-41.0	-41.7	- .600
- .500	-29.2	-29.8	-30.4	-31.1	-31.7	-32.3	-32.9	-33.5	-34.1	-34.8	-35.4	- .500
- .400	-23.1	-23.7	-24.3	-24.9	-25.5	-26.1	-26.7	-27.3	-28.0	-28.6	-29.2	- .400
- .300	-17.2	-17.8	-18.4	-19.0	-19.6	-20.2	-20.8	-21.4	-21.9	-22.5	-23.1	- .300
- .200	-11.4	-11.9	-12.5	-13.1	-13.7	-14.3	-14.9	-15.4	-16.0	-16.6	-17.2	- .200
- .100	- 5.6	- 6.2	- 6.8	- 7.3	- 7.9	- 8.5	- 9.1	- 9.7	-10.3	-10.8	-11.4	- .100
- 0	0.0	- 0.6	- 1.1	- 1.7	- 2.2	- 2.8	- 3.4	- 3.9	- 4.5	- 5.1	- 5.6	- 0
+ 0	0.0	0.6	1.1	1.7	2.2	2.8	3.4	3.9	4.5	5.1	5.6	+ 0
+0.100	5.6	6.2	6.7	7.3	7.8	8.4	8.9	9.5	10.1	10.6	11.1	+0.100
.200	11.1	11.7	12.2	12.8	13.3	13.9	14.4	15.0	15.5	16.0	16.6	.200
.300	16.6	17.1	17.7	18.2	18.7	19.3	19.8	20.3	20.9	21.4	22.0	.300
.400	22.0	22.5	23.0	23.5	24.1	24.6	25.1	25.6	26.2	26.7	27.2	.400
.500	27.2	27.7	28.3	28.8	29.3	29.8	30.4	30.9	31.4	32.0	32.5	.500
.600	32.5	33.0	33.5	34.0	34.6	35.1	35.6	36.1	36.6	37.1	37.7	.600
.700	37.7	38.2	38.7	39.2	39.7	40.3	40.8	41.3	41.8	42.3	42.8	.700
.800	42.8	43.3	43.8	44.3	44.8	45.3	45.8	46.3	46.9	47.4	47.9	.800
.900	47.9	48.4	48.9	49.4	49.9	50.4	50.9	51.4	51.9	52.4	52.9	.900
1.000	52.9	53.4	53.9	54.4	54.9	55.4	55.9	56.4	56.9	57.4	57.9	1.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
1.000	52.9	53.4	53.9	54.4	54.9	55.4	55.9	56.4	56.9	57.4	57.9	1.000
1.100	57.9	58.4	58.9	59.4	59.9	60.5	61.0	61.4	61.9	62.4	62.9	1.100
1.200	62.9	63.4	63.9	64.4	64.9	65.4	65.9	66.4	66.9	67.4	67.8	1.200
1.300	67.8	68.3	68.8	69.3	69.8	70.3	70.8	71.3	71.8	72.2	72.7	1.300
1.400	72.7	73.2	73.7	74.2	74.7	75.1	75.6	76.1	76.6	77.1	77.6	1.400
1.500	77.6	78.1	78.6	79.0	79.5	80.0	80.4	80.9	81.4	81.9	82.4	1.500
1.600	82.4	82.9	83.4	83.8	84.3	84.8	85.2	85.7	86.2	86.7	87.2	1.600
1.700	87.2	87.7	88.2	88.6	89.1	89.5	90.0	90.5	91.0	91.5	91.9	1.700
1.800	91.9	92.4	92.9	93.3	93.8	94.3	94.8	95.2	95.7	96.2	96.7	1.800
1.900	96.7	97.1	97.6	98.1	98.5	99.0	99.5	100.0	100.4	100.9	101.3	1.900
2.000	101.3	101.8	102.3	102.7	103.2	103.7	104.1	104.6	105.1	105.6	106.0	2.000
2.100	106.0	106.5	106.9	107.4	107.9	108.3	108.8	109.3	109.7	110.2	110.7	2.100
2.200	110.7	111.1	111.6	112.0	112.5	113.0	113.4	113.9	114.3	114.8	115.2	2.200
2.300	115.2	115.7	116.2	116.6	117.0	117.5	118.0	118.4	118.8	119.3	119.8	2.300
2.400	119.8	120.2	120.7	121.2	121.6	122.0	122.5	123.0	123.4	123.9	124.3	2.400
2.500	124.3	124.8	125.2	125.7	126.1	126.6	127.0	127.5	127.9	128.4	128.8	2.500
2.600	128.8	129.3	129.7	130.2	130.6	131.1	131.5	132.0	132.4	132.8	133.3	2.600
2.700	133.3	133.8	134.2	134.7	135.1	135.6	136.0	136.5	136.9	137.3	137.8	2.700
2.800	137.8	138.2	138.7	139.1	139.6	140.0	140.5	140.9	141.3	141.8	142.2	2.800
2.900	142.2	142.7	143.1	143.5	144.0	144.4	144.9	145.3	145.8	146.2	146.6	2.900
3.000	146.6	147.1	147.5	148.0	148.4	148.8	149.3	149.7	150.1	150.6	151.0	3.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
3.000	146.6	147.1	147.5	148.0	148.4	148.8	149.3	149.7	150.1	150.6	151.0	3.000
3.100	151.0	151.5	151.9	152.3	152.8	153.2	153.6	154.1	154.5	155.0	155.4	3.100
3.200	155.4	155.8	156.3	156.7	157.1	157.6	158.0	158.4	158.9	159.3	159.7	3.200
3.300	159.7	160.2	160.6	161.1	161.5	161.9	162.4	162.8	163.2	163.7	164.1	3.300
3.400	164.1	164.5	165.0	165.4	165.8	166.2	166.7	167.1	167.6	168.0	168.4	3.400
3.500	168.4	168.8	169.3	169.7	170.1	170.6	171.0	171.5	171.9	172.3	172.7	3.500
3.600	172.7	173.2	173.6	174.0	174.4	174.9	175.3	175.8	176.2	176.7	177.1	3.600
3.700	177.1	177.5	177.9	178.3	178.8	179.2	179.6	180.0	180.5	180.9	181.3	3.700
3.800	181.3	181.8	182.2	182.6	183.0	183.5	183.9	184.3	184.7	185.2	185.6	3.800
3.900	185.6	186.0	186.5	186.9	187.3	187.7	188.2	188.6	189.0	189.4	189.9	3.900
4.000	189.9	190.3	190.7	191.2	191.6	192.0	192.4	192.9	193.3	193.7	194.1	4.000
4.100	194.1	194.5	194.9	195.3	195.8	196.2	196.6	197.1	197.5	197.9	198.3	4.100
4.200	198.3	198.8	199.2	199.6	200.0	200.4	200.9	201.3	201.7	202.1	202.5	4.200
4.300	202.5	202.9	203.3	203.8	204.2	204.6	205.0	205.5	205.9	206.3	206.7	4.300
4.400	206.7	207.1	207.5	207.9	208.4	208.8	209.2	209.6	210.0	210.5	210.9	4.400
4.500	210.9	211.3	211.7	212.1	212.5	213.0	213.4	213.8	214.2	214.6	215.0	4.500
4.600	215.0	215.5	215.9	216.3	216.7	217.1	217.5	217.9	218.4	218.8	219.2	4.600
4.700	219.2	219.6	220.0	220.4	220.8	221.2	221.7	222.1	222.5	222.9	223.3	4.700
4.800	223.3	223.7	224.1	224.5	224.9	225.3	225.7	226.2	226.6	227.0	227.4	4.800
4.900	227.4	227.8	228.2	228.6	229.1	229.5	229.9	230.3	230.7	231.1	231.5	4.900
5.000	231.5	231.9	232.3	232.7	233.1	233.6	234.0	234.4	234.8	235.2	235.6	5.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
5.000	231.5	231.9	232.3	232.7	233.1	233.6	234.0	234.4	234.8	235.2	235.6	5.000
5.100	235.6	236.0	236.4	236.8	237.2	237.7	238.1	238.5	238.9	239.3	239.7	5.100
5.200	239.7	240.1	240.5	240.9	241.3	241.7	242.1	242.5	242.9	243.3	243.7	5.200
5.300	243.7	244.1	244.6	245.0	245.4	245.8	246.2	246.6	247.0	247.4	247.8	5.300
5.400	247.8	248.2	248.6	249.0	249.4	249.8	250.2	250.6	251.0	251.4	251.8	5.400
5.500	251.8	252.2	252.6	253.0	253.4	253.8	254.2	254.6	255.0	255.4	255.8	5.500
5.600	255.8	256.2	256.6	257.0	257.4	257.8	258.2	258.6	259.0	259.4	259.8	5.600
5.700	259.8	260.2	260.6	261.0	261.4	261.8	262.2	262.6	263.0	263.4	263.8	5.700
5.800	263.8	264.2	264.6	265.0	265.4	265.8	266.2	266.6	267.0	267.4	267.8	5.800
5.900	267.8	268.2	268.6	269.0	269.4	269.8	270.2	270.5	270.9	271.3	271.7	5.900
6.000	271.7	272.1	272.5	272.9	273.3	273.7	274.1	274.5	274.9	275.3	275.7	6.000
6.100	275.7	276.1	276.5	276.8	277.2	277.6	278.0	278.4	278.8	279.2	279.6	6.100
6.200	279.6	280.0	280.4	280.8	281.2	281.6	281.9	282.3	282.7	283.1	283.5	6.200
6.300	283.5	283.9	284.3	284.7	285.1	285.5	285.8	286.2	286.6	287.0	287.4	6.300
6.400	287.4	287.8	288.2	288.6	289.0	289.4	289.7	290.1	290.5	290.9	291.3	6.400
6.500	291.3	291.7	292.1	292.5	292.8	293.2	293.6	294.0	294.4	294.8	295.2	6.500
6.600	295.2	295.6	296.0	296.4	296.8	297.1	297.5	297.9	298.3	298.7	299.1	6.600
6.700	299.1	299.5	299.9	300.2	300.6	301.0	301.4	301.8	302.2	302.6	302.9	6.700
6.800	302.9	303.3	303.7	304.1	304.5	304.9	305.2	305.6	306.0	306.4	306.8	6.800
6.900	306.8	307.1	307.5	307.9	308.3	308.7	309.0	309.4	309.8	310.2	310.6	6.900
7.000	310.6	311.0	311.4	311.8	312.1	312.5	312.9	313.3	313.7	314.1	314.4	7.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
7.000	310.6	311.0	311.4	311.8	312.1	312.5	312.9	313.3	313.7	314.1	314.4	7.000
7.100	314.4	314.8	315.2	315.6	316.0	316.3	316.7	317.1	317.5	317.9	318.2	7.100
7.200	318.2	318.6	319.0	319.4	319.7	320.1	320.5	320.9	321.3	321.7	322.0	7.200
7.300	322.0	322.4	322.8	323.2	323.5	323.9	324.3	324.7	325.1	325.5	325.8	7.300
7.400	325.8	326.2	326.6	327.0	327.3	327.7	328.1	328.5	328.9	329.2	329.6	7.400
7.500	329.6	330.0	330.4	330.7	331.1	331.5	331.9	332.2	332.6	333.0	333.3	7.500
7.600	333.3	333.7	334.1	334.5	334.9	335.2	335.6	336.0	336.3	336.7	337.1	7.600
7.700	337.1	337.5	337.8	338.2	338.6	339.0	339.4	339.7	340.1	340.5	340.9	7.700
7.800	340.9	341.2	341.6	342.0	342.3	342.7	343.1	343.5	343.9	344.2	344.6	7.800
7.900	344.6	345.0	345.3	345.7	346.1	346.5	346.8	347.2	347.6	348.0	348.3	7.900
8.000	348.3	348.7	349.1	349.4	349.8	350.2	350.6	350.9	351.3	351.7	352.0	8.000
8.100	352.0	352.4	352.8	353.1	353.5	353.9	354.2	354.6	355.0	355.3	355.7	8.100
8.200	355.7	356.1	356.4	356.8	357.2	357.6	357.9	358.3	358.7	359.0	359.4	8.200
8.300	359.4	359.8	360.2	360.5	360.9	361.3	361.6	362.0	362.3	362.7	363.1	8.300
8.400	363.1	363.4	363.8	364.2	364.6	364.9	365.3	365.7	366.0	366.4	366.8	8.400
8.500	366.8	367.2	367.5	367.9	368.2	368.6	369.0	369.3	369.7	370.0	370.4	8.500
8.600	370.4	370.8	371.2	371.5	371.9	372.2	372.6	373.0	373.3	373.7	374.1	8.600
8.700	374.1	374.5	374.8	375.2	375.5	375.9	376.3	376.6	377.0	377.3	377.7	8.700
8.800	377.7	378.1	378.4	378.8	379.1	379.5	379.9	380.2	380.6	381.0	381.3	8.800
8.900	381.3	381.7	382.1	382.4	382.8	383.2	383.5	383.9	384.3	384.6	385.0	8.900
9.000	385.0	385.3	385.7	386.0	386.4	386.8	387.1	387.5	387.8	388.2	388.6	9.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
9.000	385.0	385.3	385.7	386.0	386.4	386.8	387.1	387.5	387.8	388.2	388.6	9.000
9.100	388.6	388.9	389.3	389.7	390.0	390.4	390.7	391.1	391.4	391.8	392.2	9.100
9.200	392.2	392.5	392.9	393.2	393.6	394.0	394.3	394.7	395.0	395.4	395.8	9.200
9.300	395.8	396.2	396.5	396.9	397.2	397.6	397.9	398.3	398.6	399.0	399.3	9.300
9.400	399.3	399.7	400.0	400.4	400.8	401.1	401.5	401.8	402.2	402.6	402.9	9.400
9.500	402.9	403.3	403.6	404.0	404.3	404.7	405.0	405.4	405.8	406.1	406.5	9.500
9.600	406.5	406.8	407.2	407.5	407.9	408.2	408.6	409.0	409.3	409.7	410.0	9.600
9.700	410.0	410.4	410.8	411.1	411.5	411.8	412.2	412.5	412.8	413.2	413.6	9.700
9.800	413.6	413.9	414.3	414.6	415.0	415.3	415.7	416.0	416.4	416.8	417.1	9.800
9.900	417.1	417.5	417.8	418.2	418.5	418.9	419.2	419.6	419.9	420.3	420.6	9.900
10.000	420.6	421.0	421.3	421.7	422.0	422.4	422.7	423.1	423.5	423.8	424.2	10.000
10.100	424.2	424.5	424.9	425.2	425.6	425.9	426.3	426.6	426.9	427.3	427.7	10.100
10.200	427.7	428.0	428.3	428.7	429.0	429.4	429.7	430.1	430.4	430.8	431.2	10.200
10.300	431.2	431.5	431.8	432.2	432.5	432.9	433.2	433.6	433.9	434.3	434.6	10.300
10.400	434.6	435.0	435.4	435.7	436.0	436.4	436.7	437.1	437.4	437.8	438.1	10.400
10.500	438.1	438.5	438.8	439.2	439.5	439.9	440.2	440.6	440.9	441.3	441.6	10.500
10.600	441.6	441.9	442.3	442.6	443.0	443.3	443.7	444.0	444.4	444.7	445.1	10.600
10.700	445.1	445.4	445.8	446.1	446.5	446.8	447.2	447.5	447.8	448.2	448.5	10.700
10.800	448.5	448.9	449.2	449.6	449.9	450.2	450.6	450.9	451.3	451.6	452.0	10.800
10.900	452.0	452.3	452.7	453.0	453.4	453.7	454.1	454.4	454.7	455.1	455.4	10.900
11.000	455.4	455.8	456.1	456.5	456.8	457.1	457.5	457.8	458.2	458.5	458.9	11.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
11.000	455.4	455.8	456.1	456.5	456.8	457.1	457.5	457.8	458.2	458.5	458.9	11.000
11.100	458.9	459.2	459.6	459.9	460.2	460.6	460.9	461.2	461.6	461.9	462.3	11.100
11.200	462.3	462.6	463.0	463.3	463.7	464.0	464.3	464.7	465.0	465.4	465.7	11.200
11.300	465.7	466.0	466.4	466.7	467.0	467.4	467.7	468.1	468.4	468.8	469.1	11.300
11.400	469.1	469.5	469.8	470.1	470.5	470.8	471.2	471.5	471.8	472.2	472.5	11.400
11.500	472.5	472.9	473.2	473.5	473.9	474.2	474.5	474.9	475.2	475.6	475.9	11.500
11.600	475.9	476.3	476.6	476.9	477.3	477.6	477.9	478.3	478.6	479.0	479.3	11.600
11.700	479.3	479.6	479.9	480.3	480.6	481.0	481.3	481.7	482.0	482.3	482.7	11.700
11.800	482.7	483.0	483.3	483.7	484.0	484.3	484.7	485.0	485.4	485.7	486.0	11.800
11.900	486.0	486.4	486.7	487.0	487.4	487.7	488.0	488.4	488.7	489.1	489.4	11.900
12.000	489.4	489.7	490.1	490.4	490.8	491.1	491.4	491.7	492.1	492.4	492.7	12.000
12.100	492.7	493.1	493.4	493.8	494.1	494.4	494.8	495.1	495.4	495.7	496.1	12.100
12.200	496.1	496.4	496.8	497.1	497.4	497.8	498.1	498.4	498.7	499.1	499.4	12.200
12.300	499.4	499.8	500.1	500.4	500.8	501.1	501.4	501.8	502.1	502.4	502.7	12.300
12.400	502.7	503.1	503.4	503.7	504.1	504.4	504.7	505.1	505.4	505.7	506.1	12.400
12.500	506.1	506.4	506.7	507.1	507.4	507.7	508.0	508.4	508.7	509.0	509.4	12.500
12.600	509.4	509.7	510.0	510.4	510.7	511.0	511.4	511.7	512.0	512.4	512.7	12.600
12.700	512.7	513.0	513.3	513.7	514.0	514.3	514.7	515.0	515.3	515.7	516.0	12.700
12.800	516.0	516.3	516.6	517.0	517.3	517.6	517.9	518.3	518.6	518.9	519.3	12.800
12.900	519.3	519.6	519.9	520.2	520.6	520.9	521.2	521.6	521.9	522.2	522.5	12.900
13.000	522.5	522.8	523.2	523.5	523.8	524.2	524.5	524.8	525.1	525.5	525.8	13.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
13.000	522.5	522.8	523.2	523.5	523.8	524.2	524.5	524.8	525.1	525.5	525.8	13.000
13.100	525.8	526.1	526.5	526.8	527.1	527.4	527.7	528.0	528.4	528.7	529.0	13.100
13.200	529.0	529.4	529.7	530.0	530.3	530.7	531.0	531.3	531.6	532.0	532.3	13.200
13.300	532.3	532.6	532.9	533.3	533.6	533.9	534.2	534.6	534.9	535.2	535.5	13.300
13.400	535.5	535.9	536.2	536.5	536.8	537.1	537.5	537.8	538.1	538.4	538.8	13.400
13.500	538.8	539.1	539.4	539.7	540.0	540.4	540.7	541.0	541.3	541.6	542.0	13.500
13.600	542.0	542.3	542.6	543.0	543.3	543.6	543.9	544.2	544.5	544.8	545.2	13.600
13.700	545.2	545.5	545.8	546.1	546.5	546.8	547.1	547.4	547.7	548.1	548.4	13.700
13.800	548.4	548.7	549.0	549.3	549.7	550.0	550.3	550.6	550.9	551.2	551.6	13.800
13.900	551.6	551.9	552.2	552.5	552.8	553.2	553.5	553.8	554.1	554.4	554.7	13.900
14.000	554.7	555.1	555.4	555.7	556.0	556.3	556.7	557.0	557.3	557.6	557.9	14.000
14.100	557.9	558.2	558.6	558.9	559.2	559.5	559.8	560.2	560.5	560.8	561.1	14.100
14.200	561.1	561.4	561.7	562.1	562.4	562.7	563.0	563.3	563.6	564.0	564.3	14.200
14.300	564.3	564.6	564.9	565.2	565.5	565.9	566.2	566.5	566.8	567.1	567.4	14.300
14.400	567.4	567.7	568.1	568.4	568.7	569.0	569.3	569.7	570.0	570.3	570.6	14.400
14.500	570.6	570.9	571.2	571.5	571.8	572.2	572.5	572.8	573.1	573.4	573.7	14.500
14.600	573.7	574.0	574.4	574.7	575.0	575.3	575.6	575.9	576.2	576.6	576.9	14.600
14.700	576.9	577.2	577.5	577.8	578.1	578.4	578.8	579.1	579.4	579.7	580.0	14.700
14.800	580.0	580.3	580.6	581.0	581.3	581.6	581.9	582.2	582.5	582.8	583.1	14.800
14.900	583.1	583.5	583.8	584.1	584.4	584.7	585.0	585.3	585.6	585.9	586.2	14.900
15.000	586.2	586.6	586.9	587.2	587.5	587.8	588.1	588.4	588.7	589.0	589.4	15.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
15.000	586.2	586.6	586.9	587.2	587.5	587.8	588.1	588.4	588.7	589.0	589.4	15.000
15.100	589.4	589.7	590.0	590.3	590.6	590.9	591.2	591.5	591.9	592.2	592.5	15.100
15.200	592.5	592.8	593.1	593.4	593.7	594.0	594.3	594.6	594.9	595.3	595.6	15.200
15.300	595.6	595.9	596.2	596.5	596.8	597.1	597.4	597.8	598.1	598.4	598.7	15.300
15.400	598.7	599.0	599.3	599.6	599.9	600.2	600.5	600.8	601.1	601.5	601.8	15.400
15.500	601.8	602.1	602.4	602.7	603.0	603.3	603.6	603.9	604.2	604.5	604.9	15.500
15.600	604.9	605.2	605.5	605.8	606.1	606.4	606.7	607.0	607.3	607.6	607.9	15.600
15.700	607.9	608.2	608.5	608.8	609.1	609.4	609.8	610.1	610.4	610.7	611.0	15.700
15.800	611.0	611.3	611.6	611.9	612.2	612.5	612.8	613.1	613.4	613.7	614.0	15.800
15.900	614.0	614.4	614.7	615.0	615.3	615.6	615.9	616.2	616.5	616.8	617.1	15.900
16.000	617.1	617.4	617.7	618.0	618.3	618.6	618.9	619.2	619.5	619.8	620.1	16.000
16.100	620.1	620.4	620.7	621.0	621.3	621.6	621.9	622.3	622.6	622.9	623.2	16.100
16.200	623.2	623.5	623.8	624.1	624.4	624.7	625.0	625.3	625.6	625.9	626.2	16.200
16.300	626.2	626.5	626.8	627.1	627.4	627.7	628.0	628.3	628.6	628.9	629.2	16.300
16.400	629.2	629.5	629.9	630.2	630.5	630.8	631.1	631.4	631.7	632.0	632.3	16.400
16.500	632.3	632.6	632.9	633.2	633.5	633.8	634.1	634.4	634.7	635.0	635.3	16.500
16.600	635.3	635.6	635.9	636.2	636.5	636.8	637.1	637.4	637.7	638.0	638.3	16.600
16.700	638.3	638.6	638.9	639.2	639.5	639.8	640.1	640.4	640.7	641.0	641.3	16.700
16.800	641.3	641.6	641.9	642.2	642.5	642.8	643.1	643.4	643.7	644.0	644.3	16.800
16.900	644.3	644.6	644.9	645.2	645.5	645.8	646.1	646.4	646.7	647.0	647.3	16.900
17.000	647.3	647.6	647.9	648.2	648.5	648.8	649.1	649.4	649.7	650.0	650.3	17.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
17.000	647.3	647.6	647.9	648.2	648.5	648.8	649.1	649.4	649.7	650.0	650.3	17.000
17.100	650.3	650.6	650.9	651.2	651.5	651.8	652.1	652.4	652.7	653.0	653.3	17.100
17.200	653.3	653.6	653.9	654.2	654.5	654.8	655.1	655.4	655.6	655.9	656.2	17.200
17.300	656.2	656.5	656.8	657.1	657.4	657.7	658.0	658.3	658.6	658.9	659.2	17.300
17.400	659.2	659.5	659.8	660.1	660.4	660.7	661.0	661.3	661.6	661.9	662.2	17.400
17.500	662.2	662.5	662.8	663.1	663.4	663.7	664.0	664.2	664.5	664.8	665.1	17.500
17.600	665.1	665.4	665.7	666.0	666.3	666.6	666.9	667.2	667.5	667.8	668.1	17.600
17.700	668.1	668.4	668.7	669.0	669.3	669.6	669.9	670.2	670.4	670.7	671.0	17.700
17.800	671.0	671.3	671.6	671.9	672.2	672.5	672.8	673.1	673.4	673.7	674.0	17.800
17.900	674.0	674.3	674.6	674.9	675.2	675.4	675.7	676.0	676.3	676.6	676.9	17.900
18.000	676.9	677.2	677.5	677.8	678.1	678.4	678.7	679.0	679.3	679.6	679.8	18.000
18.100	679.8	680.1	680.4	680.7	681.0	681.3	681.6	681.9	682.2	682.5	682.8	18.100
18.200	682.8	683.0	683.3	683.6	683.9	684.2	684.5	684.8	685.1	685.4	685.7	18.200
18.300	685.7	686.0	686.3	686.6	686.8	687.1	687.4	687.7	688.0	688.3	688.6	18.300
18.400	688.6	688.9	689.2	689.5	689.8	690.1	690.4	690.6	690.9	691.2	691.5	18.400
18.500	691.5	691.8	692.1	692.4	692.7	693.0	693.3	693.6	693.8	694.1	694.4	18.500
18.600	694.4	694.7	695.0	695.3	695.6	695.9	696.1	696.4	696.7	697.0	697.3	18.600
18.700	697.3	697.6	697.9	698.2	698.5	698.7	699.0	699.3	699.6	699.9	700.2	18.700
18.800	700.2	700.5	700.8	701.1	701.3	701.6	701.9	702.2	702.5	702.8	703.1	18.800
18.900	703.1	703.4	703.7	704.0	704.2	704.5	704.8	705.1	705.4	705.7	706.0	18.900
19.000	706.0	706.3	706.6	706.9	707.1	707.4	707.7	708.0	708.3	708.5	708.8	19.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
19.000	706.0	706.3	706.6	706.9	707.1	707.4	707.7	708.0	708.3	708.5	708.8	19.000
19.100	708.8	709.1	709.4	709.7	710.0	710.3	710.6	710.9	711.1	711.4	711.7	19.100
19.200	711.7	712.0	712.3	712.6	712.9	713.1	713.4	713.7	714.0	714.3	714.6	19.200
19.300	714.6	714.9	715.1	715.4	715.7	716.0	716.3	716.6	716.9	717.2	717.5	19.300
19.400	717.5	717.7	718.0	718.3	718.6	718.9	719.1	719.4	719.7	720.0	720.3	19.400
19.500	720.3	720.6	720.9	721.1	721.4	721.7	722.0	722.3	722.6	722.9	723.1	19.500
19.600	723.1	723.4	723.7	724.0	724.3	724.6	724.9	725.1	725.4	725.7	726.0	19.600
19.700	726.0	726.3	726.6	726.9	727.1	727.4	727.7	728.0	728.3	728.6	728.8	19.700
19.800	728.8	729.1	729.4	729.7	730.0	730.3	730.5	730.8	731.1	731.4	731.7	19.800
19.900	731.7	731.9	732.2	732.5	732.8	733.1	733.4	733.6	733.9	734.2	734.5	19.900
20.000	734.5	734.8	735.1	735.3	735.6	735.9	736.2	736.5	736.8	737.0	737.3	20.000
20.100	737.3	737.6	737.9	738.2	738.5	738.7	739.0	739.3	739.6	739.9	740.1	20.100
20.200	740.1	740.4	740.7	741.0	741.3	741.5	741.8	742.1	742.4	742.7	743.0	20.200
20.300	743.0	743.2	743.5	743.8	744.1	744.4	744.6	744.9	745.2	745.5	745.8	20.300
20.400	745.8	746.0	746.3	746.6	746.9	747.2	747.5	747.7	748.0	748.3	748.6	20.400
20.500	748.6	748.9	749.2	749.5	749.8	750.0	750.3	750.6	750.8	751.1	751.4	20.500
20.600	751.4	751.6	751.9	752.2	752.5	752.8	753.0	753.3	753.6	753.9	754.2	20.600
20.700	754.2	754.5	754.7	755.0	755.3	755.6	755.8	756.1	756.4	756.7	756.9	20.700
20.800	756.9	757.2	757.5	757.8	758.1	758.3	758.6	758.9	759.2	759.4	759.7	20.800
20.900	759.7	760.0	760.3	760.6	760.8	761.1	761.4	761.7	761.9	762.2	762.5	20.900
21.000	762.5	762.8	763.1	763.3	763.6	763.9	764.2	764.5	764.8	765.0	765.3	21.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
21.000	762.5	762.8	763.1	763.3	763.6	763.9	764.2	764.5	764.8	765.0	765.3	21.000
21.100	765.3	765.6	765.9	766.1	766.4	766.7	767.0	767.3	767.5	767.8	768.1	21.100
21.200	768.1	768.4	768.6	768.9	769.2	769.5	769.8	770.0	770.3	700.6	700.8	21.200
21.300	770.8	771.1	771.4	771.7	771.9	772.2	772.5	772.8	773.1	773.3	773.6	21.300
21.400	773.6	773.9	774.2	774.4	774.7	775.0	775.3	775.5	775.8	776.1	776.4	21.400
21.500	776.4	776.6	776.9	777.2	777.5	777.8	778.0	778.3	778.6	778.8	779.1	21.500
21.600	779.1	779.4	779.6	779.9	780.2	780.5	780.8	781.0	781.3	781.6	781.9	21.600
21.700	781.9	782.1	782.4	782.7	783.0	783.2	783.5	783.8	784.1	784.3	784.6	21.700
21.800	784.6	784.9	785.2	785.4	785.7	786.0	786.3	786.5	786.8	787.1	787.4	21.800
21.900	787.4	787.6	787.9	788.2	788.5	788.7	789.0	789.3	789.6	789.8	790.1	21.900
22.000	790.1	790.4	790.7	790.9	791.2	791.5	791.7	792.0	792.3	792.5	792.8	22.000
22.100	792.8	793.1	793.4	793.6	793.9	794.2	794.5	794.7	795.0	795.3	795.6	22.100
22.200	795.6	795.9	796.1	796.4	796.7	796.9	797.2	797.5	797.7	798.0	798.3	22.200
22.300	798.3	798.5	798.8	799.1	799.4	799.6	799.9	800.2	800.4	800.7	801.0	22.300
22.400	801.0	801.3	801.5	801.8	802.1	802.4	802.6	802.9	803.2	803.4	803.7	22.400
22.500	803.7	804.0	804.2	804.5	804.8	805.1	805.3	805.6	805.9	806.1	806.4	22.500
22.600	806.4	806.7	806.9	807.2	807.5	807.8	808.1	808.3	808.6	808.9	809.1	22.600
22.700	809.1	809.4	809.7	809.9	810.2	810.5	810.7	811.0	811.3	811.6	811.8	22.700
22.800	811.8	812.1	812.4	812.6	812.9	813.2	813.4	813.7	814.0	814.2	814.5	22.800
22.900	814.5	814.8	815.1	815.3	815.6	815.9	816.1	816.4	816.7	816.9	817.2	22.900
23.000	817.2	817.5	817.8	818.0	818.3	818.6	818.8	819.1	819.4	819.6	819.9	23.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
23.000	817.2	817.5	817.8	818.0	818.3	818.6	818.8	819.1	819.4	819.6	819.9	23.000
23.100	819.9	820.2	820.4	820.7	821.0	821.2	821.5	821.8	822.0	822.3	822.6	23.100
23.200	822.6	822.8	823.1	823.4	823.6	823.9	824.2	824.5	824.7	825.0	825.3	23.200
23.300	825.3	825.5	825.8	826.1	826.3	826.6	826.9	827.2	827.4	827.7	827.9	23.300
23.400	827.9	828.2	828.5	828.7	829.0	829.3	829.5	829.8	830.1	830.3	830.6	23.400
23.500	830.6	830.9	831.1	831.4	831.7	831.9	832.2	832.5	832.8	833.0	833.3	23.500
23.600	833.3	833.6	833.8	834.1	834.3	834.6	834.9	835.1	835.4	835.7	836.0	23.600
23.700	836.0	836.2	836.5	836.8	837.0	837.3	837.5	837.8	838.1	838.3	838.6	23.700
23.800	838.6	838.9	839.1	839.4	839.7	839.9	840.2	840.5	840.7	841.0	841.3	23.800
23.900	841.3	841.5	841.8	842.1	842.3	842.6	842.9	843.1	843.4	843.7	843.9	23.900
24.000	843.9	844.2	844.4	844.7	845.0	845.2	845.5	845.	846.0	846.3	846.6	24.000
24.100	846.6	846.8	847.1	847.4	847.6	847.9	848.1	848.4	848.7	848.9	849.2	24.100
24.200	849.2	849.5	849.7	850.0	850.3	850.5	850.8	851.1	851.3	851.6	851.9	24.200
24.300	851.9	852.1	852.4	852.7	852.9	853.2	853.4	853.7	854.0	854.2	854.5	24.300
24.400	854.5	854.8	855.0	855.3	855.6	855.8	856.1	856.4	856.6	856.9	857.1	24.400
24.500	857.1	857.4	857.6	857.9	858.2	858.4	858.7	859.0	859.2	859.5	859.8	24.500
24.600	859.8	860.0	860.3	860.5	860.8	861.1	861.3	861.6	861.9	862.1	862.4	24.600
24.700	862.4	862.7	862.9	863.2	863.4	863.7	864.0	864.2	864.5	864.7	865.0	24.700
24.800	865.0	865.3	865.5	865.8	866.0	866.3	866.6	866.8	867.1	867.4	867.6	24.800
24.900	867.6	867.9	868.1	868.4	868.7	868.9	869.2	869.5	869.7	870.0	870.2	24.900
25.000	870.2	870.5	870.8	871.0	871.3	871.6	871.8	872.1	872.3	872.6	872.9	25.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
25.000	870.2	870.5	870.8	871.0	871.3	871.6	871.8	872.1	872.3	872.6	872.9	25.000
25.100	872.9	873.1	873.4	873.7	873.9	874.2	874.4	874.7	875.0	875.2	875.5	25.100
25.200	875.5	875.7	876.0	876.3	876.5	876.8	877.1	877.3	877.6	877.8	878.1	25.200
25.300	878.1	878.3	878.6	878.8	879.1	879.4	879.6	879.9	880.2	880.4	880.7	25.300
25.400	880.7	880.9	881.2	881.5	881.7	882.0	882.2	882.5	882.8	883.0	883.3	25.400
25.500	883.3	883.5	883.8	884.1	884.3	884.6	884.9	885.1	885.4	885.6	885.9	25.500
25.600	885.9	886.1	886.4	886.7	886.9	887.2	887.4	887.7	888.0	888.2	888.5	25.600
25.700	888.5	888.7	889.0	889.2	889.5	889.7	890.0	890.3	890.5	890.8	891.1	25.700
25.800	891.1	891.3	891.6	891.8	892.1	892.4	892.6	892.8	893.1	893.4	893.6	25.800
25.900	893.6	893.9	894.2	894.4	894.7	894.9	895.2	895.4	895.7	896.0	896.2	25.900
26.000	896.2	896.5	896.7	897.0	897.3	897.5	897.8	898.0	898.3	898.6	898.8	26.000
26.100	898.8	899.1	899.3	899.6	899.9	900.1	900.4	900.6	900.9	901.1	901.4	26.100
26.200	901.4	901.6	901.9	902.1	902.4	902.7	902.9	903.2	903.4	903.7	903.9	26.200
26.300	903.9	904.2	904.5	904.7	905.0	905.2	905.5	905.8	906.0	906.3	906.5	26.300
26.400	906.5	906.8	907.0	907.3	907.5	907.8	908.1	908.3	908.6	908.9	909.1	26.400
26.500	909.1	909.4	909.6	909.9	910.1	910.4	910.6	910.9	911.1	911.4	911.6	26.500
26.600	911.6	911.9	912.1	912.4	912.7	912.9	913.2	913.4	913.7	913.9	914.2	26.600
26.700	914.2	914.5	914.7	915.0	915.2	915.5	915.7	916.0	916.2	916.5	916.7	26.700
26.800	916.7	917.0	917.3	917.5	917.8	918.0	918.3	918.5	918.8	919.1	919.3	26.800
26.900	919.3	919.6	919.8	920.1	920.3	920.6	920.8	921.1	921.4	921.6	921.9	26.900
27.000	921.9	922.1	922.4	922.6	922.9	923.1	923.4	923.6	923.9	924.1	924.4	27.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
29.000	972.2	972.5	972.7	973.0	973.2	973.5	973.7	974.0	974.2	974.5	974.7	29.000
29.100	974.7	975.0	975.2	975.5	975.8	976.0	976.2	976.5	976.7	977.0	977.2	29.100
29.200	977.2	977.4	977.7	977.9	978.2	978.4	978.7	978.9	979.2	979.4	979.7	29.200
29.300	979.7	979.9	980.2	980.4	980.7	980.9	981.2	981.4	981.7	981.9	982.2	29.300
29.400	982.2	982.4	982.7	982.9	983.2	983.4	983.7	983.9	984.1	984.4	984.6	29.400
29.500	984.6	984.9	985.1	985.4	985.6	985.9	986.1	986.4	986.6	986.9	987.1	29.500
29.600	987.1	987.4	987.6	987.9	988.1	988.3	988.6	988.8	989.1	989.3	989.6	29.600
29.700	989.6	989.8	990.1	990.3	990.6	990.8	991.1	991.3	991.6	991.8	992.1	29.700
29.800	992.1	992.3	992.6	992.8	993.1	993.3	993.5	993.8	994.0	994.3	994.5	29.800
29.900	994.5	994.8	995.0	995.3	995.5	995.8	996.0	996.2	996.5	996.7	997.0	29.900
30.000	997.0	997.2	997.5	997.7	998.0	998.2	998.5	998.7	999.0	999.2	999.5	30.000
30.100	999.5	999.7	999.9	1000.2	1000.4	1000.7	1000.9	1001.2	1001.4	1001.7	1001.9	30.100
30.200	1001.9	1002.2	1002.4	1002.6	1002.9	1003.1	1003.4	1003.6	1003.9	1004.1	1004.4	30.200
30.300	1004.4	1004.6	1004.9	1005.1	1005.4	1005.6	1005.8	1006.1	1006.3	1006.6	1006.8	30.300
30.400	1006.8	1007.1	1007.3	1007.6	1007.8	1008.1	1008.3	1008.5	1008.8	1009.0	1009.3	30.400
30.500	1009.3	1009.5	1009.8	1010.0	1010.3	1010.5	1010.7	1011.0	1011.2	1011.5	1011.7	30.500
30.600	1011.7	1012.0	1012.2	1012.5	1012.7	1013.0	1013.2	1013.4	1013.7	1013.9	1014.2	30.600
30.700	1014.2	1014.4	1014.7	1014.9	1015.2	1015.4	1015.7	1015.9	1016.1	1016.4	1016.6	30.700
30.800	1016.6	1016.9	1017.1	1017.4	1017.6	1017.9	1018.1	1018.3	1018.6	1018.8	1019.1	30.800
30.900	1019.1	1019.3	1019.6	1019.8	1020.1	1020.3	1020.5	1020.8	1021.0	1021.3	1021.5	30.900
31.000	1021.5	1021.8	1022.0	1022.2	1022.5	1022.7	1023.0	1023.2	1023.5	1023.7	1023.9	31.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
31.000	1021.5	1021.8	1022.0	1022.2	1022.5	1022.7	1023.0	1023.2	1023.5	1023.7	1023.9	31.000
31.100	1023.9	1024.2	1024.4	1024.7	1024.9	1025.2	1025.4	1025.7	1025.9	1026.1	1026.4	31.100
31.200	1026.4	1026.6	1026.9	1027.1	1027.3	1027.6	1027.8	1028.1	1028.3	1028.6	1028.8	31.200
31.300	1028.8	1029.1	1029.3	1029.5	1029.8	1030.0	1030.3	1030.5	1030.8	1031.0	1031.2	31.300
31.400	1031.2	1031.5	1031.7	1032.0	1032.2	1032.4	1032.7	1032.9	1033.2	1033.4	1033.7	31.400
31.500	1033.7	1033.9	1034.2	1034.4	1034.6	1034.9	1035.1	1035.4	1035.6	1035.9	1036.1	31.500
31.600	1036.1	1036.3	1036.6	1036.8	1037.1	1037.3	1037.5	1037.8	1038.0	1038.3	1038.5	31.600
31.700	1038.5	1038.7	1039.0	1039.2	1039.5	1039.7	1040.0	1040.2	1040.4	1040.7	1040.9	31.700
31.800	1040.9	1041.2	1041.4	1041.6	1041.9	1042.1	1042.4	1042.6	1042.9	1043.1	1043.3	31.800
31.900	1043.3	1043.6	1043.8	1044.1	1044.3	1044.6	1044.8	1045.1	1045.3	1045.5	1045.8	31.900
32.000	1045.8	1046.0	1046.3	1046.5	1046.7	1047.0	1047.2	1047.5	1047.7	1048.0	1048.2	32.000
32.100	1048.2	1048.4	1048.7	1048.9	1049.2	1049.4	1049.6	1049.9	1050.1	1050.4	1050.6	32.100
32.200	1050.6	1050.9	1051.1	1051.3	1051.6	1051.8	1052.1	1052.3	1052.5	1052.8	1053.0	32.200
32.300	1053.0	1053.3	1053.5	1053.7	1054.0	1054.2	1054.5	1054.7	1054.9	1055.2	1055.4	32.300
32.400	1055.4	1055.7	1055.9	1056.1	1056.4	1056.6	1056.9	1057.1	1057.3	1057.6	1057.8	32.400
32.500	1057.8	1058.1	1058.3	1058.5	1058.8	1059.0	1059.3	1059.5	1059.7	1060.0	1060.2	32.500
32.600	1060.2	1060.5	1060.7	1060.9	1061.2	1061.4	1061.7	1061.9	1062.2	1062.4	1062.6	32.600
32.700	1062.6	1062.9	1063.1	1063.3	1063.6	1063.8	1064.1	1064.3	1064.5	1064.8	1065.0	32.700
32.800	1065.0	1065.3	1065.5	1065.8	1066.0	1066.2	1066.5	1066.7	1067.0	1067.2	1067.4	32.800
32.900	1067.4	1067.7	1067.9	1068.2	1068.4	1068.6	1068.9	1069.1	1069.4	1069.6	1069.8	32.900
33.000	1069.8	1070.1	1070.3	1070.5	1070.8	1071.0	1071.3	1071.5	1071.7	1072.0	1072.2	33.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
33.000	1069.8	1070.1	1070.3	1070.5	1070.8	1071.0	1071.3	1071.5	1071.7	1072.0	1072.2	33.000
33.100	1072.2	1072.5	1072.7	1072.9	1073.2	1073.4	1073.6	1073.8	1074.1	1074.4	1074.6	33.100
33.200	1074.6	1074.8	1075.1	1075.4	1075.6	1075.8	1076.0	1076.2	1076.5	1076.7	1077.0	33.200
33.300	1077.0	1077.2	1077.5	1077.7	1078.0	1078.2	1078.4	1078.7	1078.9	1079.1	1079.4	33.300
33.400	1079.4	1079.6	1079.9	1080.1	1080.3	1080.6	1080.8	1081.1	1081.3	1081.6	1081.8	33.400
33.500	1081.8	1082.0	1082.3	1082.5	1082.7	1083.0	1083.2	1083.5	1083.7	1083.9	1084.2	33.500
33.600	1084.2	1084.4	1084.7	1084.9	1085.1	1085.4	1085.6	1085.8	1086.1	1086.3	1086.5	33.600
33.700	1086.5	1086.8	1087.0	1087.3	1087.5	1087.7	1088.0	1088.2	1088.4	1088.7	1088.9	33.700
33.800	1088.9	1089.2	1089.4	1089.6	1089.9	1090.1	1090.3	1090.6	1090.8	1091.1	1091.3	33.800
33.900	1091.3	1091.6	1091.8	1092.0	1092.3	1092.5	1092.7	1093.0	1093.2	1093.5	1093.7	33.900
34.000	1093.7	1093.9	1094.2	1094.4	1094.7	1094.9	1095.1	1095.4	1095.6	1095.8	1096.1	34.000
34.100	1096.1	1096.3	1096.5	1096.8	1097.0	1097.2	1097.5	1097.7	1098.0	1098.2	1098.4	34.100
34.200	1098.4	1098.7	1098.9	1099.2	1099.4	1099.6	1099.9	1100.1	1100.3	1100.6	1100.8	34.200
34.300	1100.8	1101.0	1101.3	1101.5	1101.7	1102.0	1102.2	1102.5	1102.7	1103.0	1103.2	34.300
34.400	1103.2	1103.4	1103.7	1103.9	1104.1	1104.4	1104.6	1104.8	1105.1	1105.3	1105.5	34.400
34.500	1105.5	1105.8	1106.0	1106.3	1106.5	1106.7	1107.0	1107.2	1107.4	1107.7	1107.9	34.500
34.600	1107.9	1108.2	1108.4	1108.6	1108.9	1109.1	1109.3	1109.6	1109.8	1110.0	1110.3	34.600
34.700	1110.3	1110.5	1110.7	1111.0	1111.2	1111.5	1111.7	1111.9	1112.2	1112.4	1112.6	34.700
34.800	1112.6	1112.9	1113.1	1113.3	1113.6	1113.8	1114.0	1114.3	1114.5	1114.8	1115.0	34.800
34.900	1115.0	1115.2	1115.5	1115.7	1116.0	1116.2	1116.4	1116.7	1116.9	1117.1	1117.4	34.900
35.000	1117.4	1117.6	1117.8	1118.1	1118.3	1118.5	1118.8	1119.0	1119.2	1119.5	1119.7	35.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
35.000	1117.4	1117.6	1117.8	1118.1	1118.3	1118.5	1118.8	1119.0	1119.2	1119.5	1119.7	35.000
35.100	1119.7	1120.0	1120.2	1120.4	1120.7	1120.9	1121.1	1121.4	1121.6	1121.8	1122.1	35.100
35.200	1122.1	1122.3	1122.5	1122.8	1123.0	1123.2	1123.5	1123.7	1123.9	1124.2	1124.4	35.200
35.300	1124.4	1124.7	1124.9	1125.1	1125.4	1125.6	1125.8	1126.1	1126.3	1126.5	1126.8	35.300
35.400	1126.8	1127.0	1127.3	1127.5	1127.7	1128.0	1128.2	1128.4	1128.7	1128.9	1129.1	35.400
35.500	1129.1	1129.4	1129.6	1129.8	1130.1	1130.3	1130.5	1130.8	1131.0	1131.2	1131.5	35.500
35.600	1131.5	1131.7	1131.9	1132.2	1132.4	1132.7	1132.9	1133.1	1133.4	1133.6	1133.8	35.600
35.700	1133.8	1134.1	1134.3	1134.6	1134.8	1135.0	1135.3	1135.5	1135.7	1136.0	1136.2	35.700
35.800	1136.2	1136.4	1136.7	1136.9	1137.1	1137.4	1137.6	1137.8	1138.1	1138.3	1138.5	35.800
35.900	1138.5	1138.8	1139.0	1139.2	1139.5	1139.7	1140.0	1140.2	1140.4	1140.7	1140.9	35.900
36.000	1140.9	1141.1	1141.4	1141.6	1141.8	1142.1	1142.3	1142.5	1142.8	1143.0	1143.2	36.000
36.100	1143.2	1143.5	1143.7	1143.9	1144.2	1144.4	1144.6	1144.9	1145.1	1145.3	1145.6	36.100
36.200	1145.6	1145.8	1146.0	1146.3	1146.5	1146.7	1147.0	1147.2	1147.5	1147.7	1147.9	36.200
36.300	1147.9	1148.2	1148.4	1148.6	1148.8	1149.1	1149.3	1149.6	1149.8	1150.0	1150.3	36.300
36.400	1150.3	1150.5	1150.7	1151.0	1151.2	1151.4	1151.6	1151.9	1152.1	1152.3	1152.6	36.400
36.500	1152.6	1152.8	1153.0	1153.3	1153.5	1153.8	1154.0	1154.2	1154.5	1154.7	1154.9	36.500
36.600	1154.9	1155.2	1155.4	1155.6	1155.9	1156.1	1156.3	1156.6	1156.8	1157.0	1157.3	36.600
36.700	1157.3	1157.5	1157.8	1158.0	1158.2	1158.4	1158.7	1158.9	1159.1	1159.4	1159.6	36.700
36.800	1159.6	1159.8	1160.1	1160.3	1160.5	1160.8	1161.0	1161.2	1161.5	1161.7	1161.9	36.800
36.900	1161.9	1162.2	1162.4	1162.6	1162.9	1163.1	1163.3	1163.6	1163.8	1164.0	1164.3	36.900
37.000	1164.3	1164.5	1164.7	1165.0	1165.2	1165.4	1165.7	1165.9	1166.1	1166.3	1166.6	37.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
37.000	1164.3	1164.5	1164.7	1165.0	1165.2	1165.4	1165.7	1165.9	1166.1	1166.3	1166.6	37.000
37.100	1166.6	1166.8	1167.0	1167.3	1167.5	1167.8	1168.0	1168.2	1168.5	1168.7	1168.9	37.100
37.200	1168.9	1169.2	1169.4	1169.6	1169.9	1170.1	1170.3	1170.6	1170.8	1171.0	1171.3	37.200
37.300	1171.3	1171.5	1171.7	1171.9	1172.2	1172.4	1172.6	1172.9	1173.1	1173.3	1173.6	37.300
37.400	1173.6	1173.8	1174.0	1174.3	1174.5	1174.7	1175.0	1175.2	1175.4	1175.7	1175.9	37.400
37.500	1175.9	1176.1	1176.4	1176.6	1176.8	1177.1	1177.3	1177.5	1177.8	1178.0	1178.2	37.500
37.600	1178.2	1178.5	1178.7	1178.9	1179.1	1179.4	1179.6	1179.8	1180.1	1180.3	1180.5	37.600
37.700	1180.5	1180.8	1181.0	1181.2	1181.5	1181.7	1181.9	1182.2	1182.4	1182.6	1182.9	37.700
37.800	1182.9	1183.1	1183.3	1183.6	1183.8	1184.0	1184.3	1184.5	1184.7	1185.0	1185.2	37.800
37.900	1185.2	1185.4	1185.7	1185.9	1186.1	1186.3	1186.6	1186.8	1187.0	1187.3	1187.5	37.900
38.000	1187.5	1187.7	1188.0	1188.2	1188.4	1188.7	1188.9	1189.1	1189.4	1189.6	1189.8	38.000
38.100	1189.8	1190.1	1190.3	1190.5	1190.8	1191.0	1191.2	1191.5	1191.7	1191.9	1192.2	38.100
38.200	1192.2	1192.4	1192.6	1192.8	1193.1	1193.3	1193.5	1193.8	1194.0	1194.2	1194.5	38.200
38.300	1194.5	1194.7	1194.9	1195.2	1195.4	1195.6	1195.9	1196.1	1196.3	1196.6	1196.8	38.300
38.400	1196.8	1197.0	1197.2	1197.5	1197.7	1197.9	1198.2	1198.4	1198.6	1198.9	1199.1	38.400
38.500	1199.1	1199.3	1199.6	1199.8	1200.0	1200.3	1200.5	1200.7	1200.9	1201.2	1201.4	38.500
38.600	1201.4	1201.6	1201.9	1202.1	1202.3	1202.6	1202.8	1203.0	1203.2	1203.5	1203.7	38.600
38.700	1203.7	1203.9	1204.2	1204.4	1204.6	1204.9	1205.1	1205.3	1205.6	1205.8	1206.0	38.700
38.800	1206.0	1206.3	1206.5	1206.7	1206.9	1207.2	1207.4	1207.6	1207.9	1208.1	1208.3	38.800
38.900	1208.3	1208.6	1208.8	1209.0	1209.3	1209.5	1209.7	1210.0	1210.2	1210.4	1210.6	38.900
39.000	1210.6	1210.9	1211.1	1211.3	1211.6	1211.8	1212.0	1212.3	1212.5	1212.7	1213.0	39.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
39.000	1210.6	1210.9	1211.1	1211.3	1211.6	1211.8	1212.0	1212.3	1212.5	1212.7	1213.0	39.000
39.100	1213.0	1213.2	1213.4	1213.7	1213.9	1214.1	1214.4	1214.6	1214.8	1215.1	1215.3	39.100
39.200	1215.3	1215.5	1215.7	1216.0	1216.2	1216.4	1216.7	1216.9	1217.1	1217.4	1217.6	39.200
39.300	1217.6	1217.8	1218.0	1218.3	1218.5	1218.7	1219.0	1219.2	1219.4	1219.7	1219.9	39.300
39.400	1219.9	1220.1	1220.4	1220.6	1220.8	1221.0	1221.3	1221.5	1221.7	1222.0	1222.2	39.400
39.500	1222.2	1222.4	1222.6	1222.8	1223.1	1223.3	1223.6	1223.8	1224.0	1224.3	1224.5	39.500
39.600	1224.5	1224.7	1225.0	1225.2	1225.4	1225.7	1225.9	1226.1	1226.3	1226.6	1226.8	39.600
39.700	1226.8	1227.0	1227.3	1227.5	1227.7	1228.0	1228.2	1228.4	1228.7	1228.9	1229.1	39.700
39.800	1229.1	1229.3	1229.6	1229.8	1230.0	1230.3	1230.5	1230.7	1231.0	1231.2	1231.4	39.800
39.900	1231.4	1231.6	1231.9	1232.1	1232.3	1232.6	1232.8	1233.0	1233.3	1233.5	1233.7	39.900
40.000	1233.7	1234.0	1234.2	1234.4	1234.6	1234.9	1235.1	1235.3	1235.6	1235.8	1236.0	40.000
40.100	1236.0	1236.3	1236.5	1236.7	1236.9	1237.2	1237.4	1237.6	1237.9	1238.1	1238.3	40.100
40.200	1238.3	1238.6	1238.8	1239.0	1239.3	1239.5	1239.7	1240.0	1240.2	1240.4	1240.7	40.200
40.300	1240.7	1240.9	1241.1	1241.3	1241.6	1241.8	1242.0	1242.3	1242.5	1242.7	1242.9	40.300
40.400	1242.9	1243.2	1243.4	1243.6	1243.9	1244.1	1244.3	1244.6	1244.8	1245.0	1245.3	40.400
40.500	1245.3	1245.5	1245.7	1246.0	1246.2	1246.4	1246.6	1246.9	1247.1	1247.3	1247.5	40.500
40.600	1247.5	1247.8	1248.0	1248.2	1248.5	1248.7	1248.9	1249.2	1249.4	1249.6	1249.9	40.600
40.700	1249.9	1250.1	1250.3	1250.5	1250.8	1251.0	1251.2	1251.5	1251.7	1251.9	1252.2	40.700
40.800	1252.2	1252.4	1252.6	1252.9	1253.1	1253.3	1253.5	1253.8	1254.0	1254.2	1254.5	40.800
40.900	1254.5	1254.7	1254.9	1255.1	1255.4	1255.6	1255.8	1256.1	1256.3	1256.5	1256.8	40.900
41.000	1256.8	1257.0	1257.2	1257.4	1257.7	1257.9	1258.1	1258.4	1258.6	1258.8	1259.1	41.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
41.000	1256.8	1257.0	1257.2	1257.4	1257.7	1257.9	1258.1	1258.4	1258.6	1258.8	1259.1	41.000
41.100	1259.1	1259.3	1259.5	1259.8	1260.0	1260.2	1260.4	1260.7	1260.9	1261.1	1261.3	41.100
41.200	1261.3	1261.6	1261.8	1262.0	1262.3	1262.5	1262.7	1262.9	1263.2	1263.4	1263.6	41.200
41.300	1263.6	1263.9	1264.1	1264.3	1264.6	1264.8	1265.0	1265.3	1265.5	1265.7	1266.0	41.300
41.400	1266.0	1266.2	1266.4	1266.6	1266.9	1267.1	1267.3	1267.5	1267.8	1268.0	1268.2	41.400
41.500	1268.2	1268.5	1268.7	1268.9	1269.2	1269.4	1269.6	1269.8	1270.1	1270.3	1270.5	41.500
41.600	1270.5	1270.8	1271.0	1271.2	1271.5	1271.7	1271.9	1272.1	1272.4	1272.6	1272.8	41.600
41.700	1272.8	1273.1	1273.3	1273.5	1273.7	1274.0	1274.2	1274.4	1274.7	1274.9	1275.1	41.700
41.800	1275.1	1275.3	1275.6	1275.8	1276.0	1276.3	1276.5	1276.7	1276.9	1277.2	1277.4	41.800
41.900	1277.4	1277.6	1277.9	1278.1	1278.3	1278.6	1278.8	1279.0	1279.3	1279.5	1279.7	41.900
42.000	1279.7	1279.9	1280.2	1280.4	1280.6	1280.8	1281.1	1281.3	1281.5	1281.8	1282.0	42.000
42.100	1282.0	1282.2	1282.4	1282.7	1282.9	1283.1	1283.4	1283.6	1283.8	1284.0	1284.3	42.100
42.200	1284.3	1284.5	1284.7	1285.0	1285.2	1285.4	1285.7	1285.9	1286.1	1286.3	1286.6	42.200
42.300	1286.6	1286.8	1287.0	1287.3	1287.5	1287.7	1287.9	1288.2	1288.4	1288.6	1288.9	42.300
42.400	1288.9	1289.1	1289.3	1289.6	1289.8	1290.0	1290.2	1290.5	1290.7	1290.9	1291.2	42.400
42.500	1291.2	1291.4	1291.6	1291.8	1292.1	1292.3	1292.5	1292.7	1293.0	1293.2	1293.4	42.500
42.600	1293.4	1293.7	1293.9	1294.1	1294.4	1294.6	1294.8	1295.1	1295.3	1295.5	1295.7	42.600
42.700	1295.7	1296.0	1296.2	1296.4	1296.7	1296.9	1297.1	1297.3	1297.6	1297.8	1298.0	42.700
42.800	1298.0	1298.3	1298.5	1298.7	1298.9	1299.2	1299.4	1299.6	1299.8	1300.1	1300.3	42.800
42.900	1300.3	1300.5	1300.8	1301.0	1301.2	1301.4	1301.7	1301.9	1302.1	1302.4	1302.6	42.900
43.000	1302.6	1302.8	1303.1	1303.3	1303.5	1303.7	1304.0	1304.2	1304.4	1304.6	1304.9	43.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
43.000	1302.6	1302.8	1303.1	1303.3	1303.5	1303.7	1304.0	1304.2	1304.4	1304.6	1304.9	43.000
43.100	1304.9	1305.1	1305.3	1305.6	1305.8	1306.0	1306.3	1306.5	1306.7	1306.9	1307.2	43.100
43.200	1307.2	1307.4	1307.6	1307.9	1308.1	1308.3	1308.5	1308.8	1309.0	1309.2	1309.4	43.200
43.300	1309.4	1309.7	1309.9	1310.1	1310.4	1310.6	1310.8	1311.0	1311.3	1311.5	1311.7	43.300
43.400	1311.7	1311.9	1312.2	1312.4	1312.6	1312.9	1313.1	1313.3	1313.5	1313.8	1314.0	43.400
43.500	1314.0	1314.2	1314.5	1314.7	1314.9	1315.1	1315.4	1315.6	1315.8	1316.0	1316.3	43.500
43.600	1316.3	1316.5	1316.7	1317.0	1317.2	1317.4	1317.6	1317.9	1318.1	1318.3	1318.6	43.600
43.700	1318.6	1318.8	1319.0	1319.3	1319.5	1319.7	1319.9	1320.2	1320.4	1320.6	1320.8	43.700
43.800	1320.8	1321.1	1321.3	1321.5	1321.7	1322.0	1322.2	1322.4	1322.6	1322.9	1323.1	43.800
43.900	1323.1	1323.3	1323.6	1323.8	1324.0	1324.3	1324.5	1324.7	1324.9	1325.2	1325.4	43.900
44.000	1325.4	1325.6	1325.8	1326.1	1326.3	1326.5	1326.7	1327.0	1327.2	1327.4	1327.6	44.000
44.100	1327.6	1327.9	1328.1	1328.3	1328.6	1328.8	1329.0	1329.2	1329.5	1329.7	1329.9	44.100
44.200	1329.9	1330.1	1330.4	1330.6	1330.8	1331.0	1331.3	1331.5	1331.7	1332.0	1332.2	44.200
44.300	1332.2	1332.4	1332.6	1332.9	1333.1	1333.3	1333.5	1333.8	1334.0	1334.2	1334.4	44.300
44.400	1334.4	1334.7	1334.9	1335.1	1335.3	1335.6	1335.8	1336.0	1336.3	1336.5	1336.7	44.400
44.500	1336.7	1336.9	1337.2	1337.4	1337.6	1337.8	1338.1	1338.3	1338.5	1338.7	1339.0	44.500
44.600	1339.0	1339.2	1339.4	1339.6	1339.9	1340.1	1340.3	1340.5	1340.8	1341.0	1341.2	44.600
44.700	1341.2	1341.5	1341.7	1341.9	1342.1	1342.4	1342.6	1342.8	1343.0	1343.3	1343.5	44.700
44.800	1343.5	1343.7	1343.9	1344.2	1344.4	1344.6	1344.8	1345.1	1345.3	1345.5	1345.8	44.800
44.900	1345.8	1346.0	1346.2	1346.4	1346.7	1346.9	1347.1	1347.3	1347.6	1347.8	1348.0	44.900
45.000	1348.0	1348.2	1348.5	1348.7	1348.9	1349.1	1349.4	1349.6	1349.8	1350.1	1350.3	45.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
45.000	1348.0	1348.2	1348.5	1348.7	1348.9	1349.1	1349.4	1349.6	1349.8	1350.1	1350.3	45.000
45.100	1350.3	1350.5	1350.7	1351.0	1351.2	1351.4	1351.6	1351.9	1352.1	1352.3	1352.5	45.100
45.200	1352.5	1352.8	1353.0	1353.2	1353.5	1353.7	1353.9	1354.1	1354.4	1354.6	1354.8	45.200
45.300	1354.8	1355.0	1355.3	1355.5	1355.7	1355.9	1356.2	1356.4	1356.6	1356.9	1357.1	45.300
45.400	1357.1	1357.3	1357.5	1357.8	1358.0	1358.2	1358.4	1358.7	1358.9	1359.1	1359.3	45.400
45.500	1359.3	1359.6	1359.8	1360.0	1360.2	1360.5	1360.7	1360.9	1361.1	1361.4	1361.6	45.500
45.600	1361.6	1361.8	1362.1	1362.3	1362.5	1362.7	1363.0	1363.2	1363.4	1363.6	1363.9	45.600
45.700	1363.9	1364.1	1364.3	1364.5	1364.8	1365.0	1365.2	1365.4	1365.6	1365.9	1366.1	45.700
45.800	1366.1	1366.3	1366.5	1366.8	1367.0	1367.2	1367.5	1367.7	1367.9	1368.1	1368.4	45.800
45.900	1368.4	1368.6	1368.8	1369.0	1369.3	1369.5	1369.7	1369.9	1370.2	1370.4	1370.6	45.900
46.000	1370.6	1370.8	1371.1	1371.3	1371.5	1371.7	1372.0	1372.2	1372.4	1372.7	1372.9	46.000
46.100	1372.9	1373.1	1373.3	1373.6	1373.8	1374.0	1374.2	1374.4	1374.7	1374.9	1375.1	46.100
46.200	1375.1	1375.3	1375.6	1375.8	1376.0	1376.3	1376.5	1376.7	1376.9	1377.2	1377.4	46.200
46.300	1377.4	1377.6	1377.8	1378.1	1378.3	1378.5	1378.7	1379.0	1379.2	1379.4	1379.6	46.300
46.400	1379.6	1379.9	1380.1	1380.3	1380.5	1380.8	1381.0	1381.2	1381.4	1381.7	1381.9	46.400
46.500	1381.9	1382.1	1382.3	1382.6	1382.8	1383.0	1383.2	1383.5	1383.7	1383.9	1384.1	46.500
46.600	1384.1	1384.4	1384.6	1384.8	1385.1	1385.3	1385.5	1385.7	1386.0	1386.2	1386.4	46.600
46.700	1386.4	1386.6	1386.9	1387.1	1387.3	1387.5	1387.8	1388.0	1388.2	1388.4	1388.6	46.700
46.800	1388.6	1388.9	1389.1	1389.3	1389.5	1389.8	1390.0	1390.2	1390.5	1390.7	1390,9	46.800
46.900	1390.9	1391.1	1391.4	1391.6	1391.8	1392.0	1392.3	1392.5	1392.7	1392.9	1393.2	46.900
47.000	1393.2	1393.4	1393.6	1393.8	1394.1	1394.3	1394.5	1394.7	1395.0	1395.2	1395.4	47.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 3. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees C											
47.000	1393.2	1393.4	1393.6	1393.8	1394.1	1394.3	1394.5	1394.7	1395.0	1395.2	1395.4	47.000
47.100	1395.4	1395.6	1395.8	1396.1	1396.3	1396.5	1396.7	1397.0	1397.2	1397.4	1397.6	47.100
47.200	1397.6	1397.9	1398.1	1398.3	1398.5	1398.8	1399.0	------	------	------	------	47.200
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
-60	-0.978	-0.993	-1.008	------	------	------	------	------	------	------	------	-60
-50	-0.830	-0.845	-0.860	-0.875	-0.890	-0.905	-0.920	-0.935	-0.949	-0.964	-0.978	-50
-40	-0.674	-0.690	-0.706	-0.722	-0.737	-0.753	-0.768	-0.784	-0.800	-0.815	-0.830	-40
-30	-0.514	-0.530	-0.546	-0.562	-0.578	-0.594	-0.610	-0.626	-0.642	-0.658	-0.674	-30
-20	-0.347	-0.364	-0.381	-0.398	-0.415	-0.431	-0.448	-0.465	-0.482	-0.498	-0.514	-20
-10	-0.175	-0.193	-0.211	-0.229	-0.246	-0.262	-0.279	-0.296	-0.313	-0.330	-0.347	-10
- 0	0.000	-0.018	-0.036	-0.054	-0.071	-0.089	-0.106	-0.124	-0.141	-0.158	-0.175	- 0
+ 0	0.000	0.018	0.036	0.054	0.071	0.089	0.107	0.125	0.143	0.161	0.179	+ 0
10	0.179	0.198	0.216	0.234	0.252	0.271	0.290	0.308	0.326	0.345	0.364	10
20	0.364	0.382	0.401	0.420	0.439	0.458	0.477	0.496	0.515	0.534	0.553	20
30	0.553	0.572	0.591	0.610	0.629	0.649	0.668	0.687	0.706	0.726	0.745	30
40	0.745	0.765	0.785	0.804	0.824	0.844	0.864	0.883	0.902	0.922	0.942	40
50	0.942	0.962	0.982	1.002	1.022	1.042	1.062	1.082	1.101	1.121	1.141	50
60	1.141	1.161	1.182	1.202	1.222	1.243	1.263	1.283	1.304	1.324	1.345	60
70	1.345	1.365	1.385	1.405	1.426	1.447	1.468	1.488	1.509	1.530	1.551	70
80	1.551	1.572	1.592	1.613	1.634	1.655	1.676	1.697	1.717	1.738	1.760	80
90	1.760	1.781	1.802	1.823	1.844	1.865	1.886	1.907	1.929	1.950	1.971	90
100	1.971	1.993	2.014	2.036	2.057	2.078	2.100	2.121	2.143	2.164	2.186	100
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15 IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
100	1.971	1.993	2.014	2.036	2.057	2.078	2.100	2.121	2.143	2.164	2.186	100
110	2.186	2.208	2.229	2.251	2.273	2.295	2.317	2.339	2.361	2.383	2.405	110
120	2.405	2.427	2.449	2.471	2.493	2.515	2.537	2.559	2.581	2.604	2.626	120
130	2.626	2.649	2.671	2.693	2.715	2.737	2.760	2.783	2.805	2.828	2.850	130
140	2.850	2.873	2.896	2.918	2.940	2.963	2.986	3.008	3.031	3.054	3.077	140
150	3.077	3.100	3.123	3.146	3.168	3.191	3.214	3.237	3.260	3.283	3.306	150
160	3.306	3.329	3.352	3.375	3.398	3.421	3.444	3.467	3.490	3.514	3.537	160
170	3.537	3.560	3.583	3.606	3.630	3.653	3.676	3.699	3.722	3.745	3.769	170
180	3.769	3.792	3.816	3.839	3.863	3.886	3.909	3.933	3.956	3.980	4.003	180
190	4.003	4.026	4.050	4.074	4.098	4.122	4.145	4.169	4.192	4.216	4.240	190
200	4.240	4.264	4.288	4.312	4.336	4.359	4.383	4.407	4.431	4.455	4.479	200
210	4.479	4.503	4.527	4.551	4.575	4.599	4.623	4.647	4.672	4.696	4.720	210
220	4.720	4.744	4.768	4.793	4.818	4.842	4.866	4.890	4.915	4.939	4.963	220
230	4.963	4.987	5.012	5.037	5.061	5.085	5.110	5.134	5.158	5.183	5.208	230
240	5.208	5.232	5.257	5.282	5.307	5.331	5.356	5.381	5.406	5.431	5.455	240
250	5.455	5.480	5.505	5.530	5.555	5.580	5.605	5.630	5.655	5.680	5.705	250
260	5.705	5.730	5.755	5.780	5.805	5.830	5.855	5.880	5.906	5.931	5.956	260
270	5.956	5.982	6.007	6.033	6.058	6.083	6.108	6.134	6.160	6.185	6.210	270
280	6.210	6.236	6.261	6.287	6.313	6.338	6.364	6.389	6.415	6.441	6.467	280
290	6.467	6.492	6.518	6.544	6.570	6.595	6.620	6.646	6.672	6.698	6.724	290
300	6.724	6.750	6.776	6.802	6.828	6.854	6.880	6.906	6.932	6.958	6.985	300
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
300	6.724	6.750	6.776	6.802	6.828	6.854	6.880	6.906	6.932	6.958	6.985	300
310	6.985	7.011	7.037	7.053	7.089	7.115	7.141	7.167	7.194	7.220	7.247	310
320	7.247	7.273	7.299	7.326	7.352	7.378	7.404	7.431	7.458	7.484	7.511	320
330	7.511	7.537	7.564	7.591	7.617	7.644	7.671	7.697	7.724	7.750	7.777	330
340	7.777	7.804	7.831	7.858	7.884	7.911	7.938	7.964	7.991	8.018	8.045	340
350	8.045	8.072	8.099	8.127	8.154	8.181	8.208	8.235	8.262	8.289	8.316	350
360	8.316	8.343	8.371	8.398	8.425	8.452	8.479	8.506	8.534	8.561	8.589	360
370	8.589	8.616	8.644	8.671	8.698	8.725	8.753	8.781	8.808	8.836	8.864	370
380	8.864	8.891	8.918	8.945	8.973	9.001	9.029	9.057	9.085	9.112	9.140	380
390	9.140	9.168	9.196	9.223	9.251	9.279	9.306	9.334	9.362	9.390	9.419	390
400	9.419	9.447	9.475	9.503	9.531	9.559	9.587	9.615	9.643	9.671	9.699	400
410	9.699	9.727	9.756	9.784	9.812	9.841	9.869	9.897	9.925	9.954	9.982	410
420	9.982	10.011	10.039	10.067	10.095	10.124	10.153	10.182	10.210	10.239	10.268	420
430	10.268	10.297	10.325	10.353	10.382	10.410	10.439	10.468	10.496	10.525	10.554	430
440	10.554	10.583	10.612	10.640	10.669	10.698	10.727	10.756	10.785	10.814	10.843	440
450	10.843	10.872	10.901	10.929	10.958	10.988	11.017	11.046	11.075	11.104	11.133	450
460	11.133	11.163	11.192	11.221	11.250	11.280	11.309	11.338	11.367	11.396	11.426	460
470	11.426	11.456	11.485	11.514	11.544	11.574	11.603	11.632	11.662	11.692	11.722	470
480	11.722	11.751	11.780	11.810	11.840	11.869	11.899	11.929	11.959	11.988	12.018	480
490	12.018	12.048	12.078	12.108	12.137	12.167	12.197	12.227	12.257	12.287	12.317	490
500	12.317	12.348	12.378	12.408	12.438	12.468	12.498	12.528	12.559	12.589	12.619	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
500	12.317	12.348	12.378	12.408	12.438	12.468	12.498	12.528	12.559	12.589	12.619	500
510	12.619	12.650	12.680	12.710	12.740	12.770	12.801	12.831	12.862	12.892	12.923	510
520	12.923	12.953	12.984	13.015	13.045	13.076	13.107	13.137	13.168	13.199	13.230	520
530	13.230	13.261	13.291	13.322	13.353	13.384	13.415	13.446	13.477	13.508	13.539	530
540	13.539	13.570	13.601	13.632	13.663	13.695	13.726	13.757	13.788	13.819	13.851	540
550	13.851	13.882	13.914	13.945	13.977	14.008	14.039	14.071	14.102	14.134	14.165	550
560	14.165	14.197	14.228	14.260	14.291	14.323	14.355	14.386	14.418	14.450	14.481	560
570	14.481	14.513	14.545	14.577	14.609	14.640	14.672	14.704	14.736	14.768	14.800	570
580	14.800	14.832	14.864	14.896	14.928	14.960	14.992	15.024	15.056	15.088	15.120	580
590	15.120	15.152	15.185	15.217	15.250	15.282	15.314	15.346	15.373	15.411	15.443	590
600	15.443	15.475	15.508	15.540	15.573	15.605	15.637	15.670	15.703	15.736	15.768	600
610	15.768	15.800	15.833	15.866	15.899	15.931	15.964	15.997	16.029	16.062	16.095	610
620	16.095	16.128	16.161	16.194	16.227	16.260	16.293	16.326	16.359	16.392	16.425	620
630	16.425	16.458	16.491	16.524	16.558	16.591	16.624	16.657	16.690	16.723	16.756	630
640	16.756	16.789	16.823	16.856	16.890	16.923	16.957	16.991	17.024	17.058	17.091	640
650	17.091	17.124	17.158	17.192	17.225	17.258	17.292	17.325	17.359	17.393	17.427	650
660	17.427	17.460	17.494	17.528	17.562	17.596	17.630	17.664	17.698	17.732	17.765	660
670	17.765	17.799	17.833	17.867	17.901	17.935	17.969	18.003	18.037	18.071	18.106	670
680	18.106	18.140	18.174	18.209	18.243	18.277	18.311	18.345	18.380	18.414	18.448	680
690	18.448	18.482	18.517	18.552	18.586	18.621	18.655	18.690	18.725	18.759	18.793	690
700	18.793	18.828	18.862	18.897	18.932	18.966	19.001	19.036	19.071	19.106	19.141	700
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
700	18.793	18.828	18.862	18.897	18.932	18.966	19.001	19.036	19.071	19.106	19.141	700
710	19.141	19.175	19.210	19.245	19.280	19.315	19.350	19.385	19,420	19.455	19.490	710
720	19.490	19.525	19.560	19.595	19.630	19.665	19.700	19.735	19.771	19.806	19.841	720
730	19.841	19.877	19.912	19.948	19.983	20.018	20.053	20.089	20.124	20.160	20.195	730
740	20.195	20.231	20.267	20.302	20.337	20.373	20.409	20.444	20.480	20.515	20.551	740
750	20.551	20.587	20.623	20.659	20.694	20.730	20.766	20.802	20.838	20.874	20.910	750
760	20.910	20.946	20.982	21.018	21.053	21.089	21.125	21.161	21.197	21.233	21.269	760
770	21.269	21.306	21.342	21.378	21.414	21.451	21.487	21.523	21.559	21.596	21.633	770
780	21.633	21.669	21.705	21.741	21.778	21.814	21.851	21.887	21.923	21.960	21.996	780
790	21.996	22.033	22.070	22.107	22.143	22.180	22.216	22.253	22.290	22.327	22.364	790
800	22.364	22.401	22.437	22.474	22.511	22.548	22.585	22.622	22.659	22.696	22.733	800
810	22.733	22.770	22.807	22.844	22.881	22.918	22.955	22.992	23.029	23.066	23.104	810
820	23.104	23.142	23.179	23.216	23.253	23.290	23.328	23.365	23.402	23.440	23.478	820
830	23.478	23.515	23.552	23.589	23.627	23.665	23.702	23.740	23.777	23.815	23.853	830
840	23.853	23.891	23.928	23.965	24.003	24.041	24.079	24.117	24.154	24.192	24.230	840
850	24.230	24.268	24.306	24.343	24.381	24.419	24.457	24.495	24.533	24.571	24.609	850
860	24.609	24.647	24.686	24.724	24.762	24.800	24.839	24.877	24.915	24.953	24.991	860
870	24.991	25.029	25.067	25.105	25.143	25.182	25.220	25.258	25.297	25.336	25.374	870
880	25.374	25.413	25.451	25.489	25.527	25.566	25.605	25.643	25.682	25.721	25.760	880
890	25.760	25.798	25.837	25.875	25.914	25.953	25.992	26.030	26.069	26.107	26.145	890
900	26.145	26.186	26.225	26.263	26.302	26.341	26.380	26.419	26.458	26.497	26.536	900
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
900	26.145	26.186	26.225	26.263	26.302	26.341	26.380	26.419	26.458	26.497	26.536	900
910	26.536	26.575	26.614	26.653	26.692	26.732	26.771	26.810	26.849	26.888	26.927	910
920	26.927	26.966	27.005	27.045	27.084	27.124	27.164	27.203	27.242	27.281	27.321	920
930	27.321	27.360	27.399	27.439	27.478	27.518	27.557	27.596	27.636	27.675	27.715	930
940	27.715	27.755	27.794	27.834	27.873	27.913	27.953	27.993	28.033	28.072	28.112	940
950	28.112	28.152	28.192	28.232	28.271	28.311	28.351	28.391	28.431	28.471	28.511	950
960	28.511	28.551	28.591	28.631	28.671	28.711	28.751	28.791	28.831	28.871	28.911	960
970	28.911	28.951	28.991	29.031	29.071	29.112	29.152	29.192	29.233	29.273	29.313	970
980	29.313	29.353	29.394	29.434	29.474	29.515	29.555	29.595	29.636	29.676	29.717	980
990	29.717	29.757	29.798	29.838	29.879	29.919	29.960	30.001	30.041	30.082	30.123	990
1000	30.123	30.163	30.204	30.245	30.285	30.326	30.367	30.408	30.448	30.489	30.530	1000
1010	30.530	30.571	30.612	30.652	30.693	30.733	30.774	30.815	30.856	30.897	30.938	1010
1020	30.938	30.979	31.020	31.061	31.102	31.143	31.184	31.226	31.267	31.308	31.349	1020
1030	31.349	31.390	31.432	31.473	31.514	31.555	31.596	31.638	31.679	31.721	31.762	1030
1040	31.762	31.803	31.845	31.886	31.927	31.968	32.009	32.051	32.092	32.134	32.175	1040
1050	32.175	32.216	32.258	32.299	32.341	32.383	32.424	32.466	32.507	32.549	32.591	1050
1060	32.591	32.632	32.674	32.716	32.757	32.799	32.840	32.882	32.924	32.966	33.007	1060
1070	33.007	33.049	33.091	33.133	33.175	33.217	33.259	33.301	33.343	33.385	33.426	1070
1080	33.426	33.467	33.509	33.551	33.593	33.635	33.677	33.719	33.761	33.803	33.845	1080
1090	33.845	33.887	33.929	33.971	34.013	34.055	34.097	34.140	34.182	34.224	34.266	1090
1100	34.266	34.308	34.350	34.392	34.434	34.477	34.519	34.561	34.604	34.647	34.689	1100
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
1100	34.266	34.308	34.350	34.392	34.434	34.477	34.519	34.561	34.604	34.647	34.689	1100
1110	34.689	34.731	34.773	34.816	34.858	34.900	34.942	34.985	35.027	35.070	35.112	1110
1120	35.112	35.154	35.197	35.240	35.283	35.325	35.367	35.409	35.452	35.495	35.537	1120
1130	35.537	35.579	35.622	35.664	35.707	35.749	35.792	35.835	35.878	35.920	35.962	1130
1140	35.962	36.005	36.047	36.090	36.133	36.176	36.219	36.261	36.304	36.347	36.389	1140
1150	36.389	36.432	36.475	36.518	36.560	36.603	36.646	36.689	36.732	36.775	36.818	1150
1160	36.818	36.860	36.903	36.946	36.989	37.032	37.075	37.118	37.160	37.203	37.246	1160
1170	37.246	37.289	37.332	37.375	37.418	37.461	37.504	37.547	37.591	37.634	37.677	1170
1180	37.677	37.720	37.763	37.806	37.849	37.892	37.935	37.978	38.021	38.064	38.107	1180
1190	38.107	38.150	38.193	38.237	38.280	38.323	38.366	38.409	38.453	38.496	38.539	1190
1200	38.539	38.583	38.626	38.670	38.713	38.756	38.799	38.842	38.886	38.929	38.972	1200
1210	38.972	39.015	39.058	39.102	39.145	39.188	39.231	39.274	39.318	39.362	39.405	1210
1220	39.405	39.448	39.491	39.535	39.579	39.622	39.665	39.708	39.752	39.795	39.839	1220
1230	39.839	39.882	39.925	39.969	40.012	40.056	40.099	40.142	40.186	40.229	40.272	1230
1240	40.272	40.315	40.359	40.403	40.446	40.489	40.532	40.576	40.620	40.663	40.706	1240
1250	40.706	40.750	40.793	40.837	40.880	40.924	40.967	41.011	41.055	41.098	41.141	1250
1260	41.141	41.185	41.228	41.272	41.316	41.359	41.402	41.446	41.490	41.533	41.577	1260
1270	41.577	41.620	41.664	41.708	41.752	41.795	41.839	41.882	41.926	41.969	42.013	1270
1280	42.013	42.057	42.100	42.144	42.188	42.232	42.275	42.318	42.362	42.406	42.450	1280
1290	42.450	42.493	42.537	42.581	42.625	42.668	42.711	42.755	42.799	42.843	42.887	1290
1300	42.887	42.930	42.974	43.018	43.062	43.106	43.149	43.193	43.237	43.281	43.324	1300
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 4. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees C (Int.1948). Reference Junction at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Millivolts											
1300	42.887	42.930	42.974	43.018	43.062	43.106	43.149	43.193	43.237	43.281	43.324	1300
1310	43.324	43.468	43.412	43.456	43.500	43.544	43.588	43.632	43.676	43.719	43.763	1310
1320	43.763	43.807	43.851	43.895	43.939	43.983	44.027	44.071	44.116	44.160	44.204	1320
1330	44.204	44.248	44.292	44.337	44.381	44.425	44.469	44.513	44.558	44.602	44.646	1330
1340	44.646	44.690	44.734	44.779	44.823	44.867	44.911	44.955	44.999	45.043	45.087	1340
1350	45.087	45.132	45.176	45.220	45.264	45.309	45.353	45.397	45.441	45.485	45.530	1350
1360	45.530	45.574	45.618	45.662	45.707	45.751	45.796	45.840	45.884	45.929	45.973	1360
1370	45.973	46.017	46.061	46.106	46.150	46.195	46.239	46.283	46.327	46.372	46.416	1370
1380	46.416	46.460	46.505	46.550	46.594	46.638	46.682	46.726	46.771	46.816	46.860	1380
1390	46.860	46.904	46.949	46.993	47.037	47.082	47.127	47.171	47.216	47.260	------	1390
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
-0.900	-66.4	-67.6	-68.8	-70.0	-71.3	-72.5	-73.8	-75.0	-76.3	-77.5	-78.8	-0.900
- .800	-54.4	-55.6	-56.8	-58.0	-59.2	-60.4	-61.6	-62.8	-64.0	-65.2	-66.4	- .800
- .700	-43.0	-44.1	-45.2	-46.4	-47.6	-48.7	-49.8	-51.0	-52.1	-53.3	-54.4	- .700
- .600	-31.7	-32.8	-33.9	-35.1	-36.2	-37.3	-38.4	-39.6	-40.7	-41.9	-43.0	- .600
- .500	-20.6	-21.7	-22.8	-23.9	-25.0	-26.1	-27.2	-28.3	-29.4	-30.6	-31.7	- .500
- .400	- 9.6	-10.7	-11.8	-12.9	-14.0	-15.1	-16.1	-17.2	-18.3	-19.4	-20.6	- .400
- .300	+ 1.0	0.0	- 1.0	- 2.1	- 3.2	- 4.3	- 5.4	- 6.4	- 7.4	- 8.5	- 9.6	- .300
- .200	11.5	10.5	9.4	8.4	7.4	6.3	5.2	4.2	3.2	2.1	+ 1.0	- .200
- .100	21.8	20.8	19.8	18.8	17.8	16.8	15.7	14.6	13.5	12.5	11.5	- .100
- 0	32.0	31.0	30.0	29.0	28.0	27.0	26.0	24.9	23.9	22.9	21.8	- 0
+ 0	32.0	33.0	34.0	35.0	36.0	37.0	38.1	39.1	40.1	41.1	42.1	+ 0
+0.100	42.1	43.1	44.1	45.1	46.1	47.1	48.1	49.1	50.1	51.0	52.0	+0.100
.200	52.0	53.0	54.0	55.0	56.0	57.0	57.9	58.9	59.9	60.8	61.8	.200
.300	61.8	62.8	63.8	64.8	65.7	66.7	67.6	68.6	69.6	70.5	71.5	.300
.400	71.5	72.5	73.4	74.4	75.3	76.3	77.2	78.2	79.1	80.1	81.0	.400
.500	81.0	81.9	82.9	83.8	84.8	85.7	86.6	87.6	88.5	89.5	90.5	.500
.600	90.5	91.4	92.3	93.3	94.2	95.1	96.1	97.0	97.9	98.8	99.8	.600
.700	99.8	100.7	101.6	102.5	103.5	104.5	105.4	106.3	107.2	108.1	109.1	.700
.800	109.1	110.0	110.9	111.8	112.7	113.6	114.5	115.4	116.4	117.3	118.2	.800
.900	118.2	119.1	120.0	120.9	121.8	122.7	123.6	124.5	125.4	126.3	127.2	.900
1.000	127.2	128.1	129.0	129.9	130.8	131.7	132.6	133.5	134.5	135.4	136.3	1.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.080	.100	Millivolts

*Based on the International Temperature Scale of 1948

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
1.000	127.2	128.1	129.0	129.9	130.8	131.7	132.6	133.5	134.5	135.4	136.3	1.000
1.100	136.3	137.2	138.1	139.0	139.9	140.8	141.7	142.6	143.4	144.3	145.2	1.100
1.200	145.2	146.1	147.0	147.9	148.8	149.7	150.6	151.5	152.4	153.3	154.1	1.200
1.300	154.1	154.9	155.8	156.7	157.6	158.5	159.4	160.3	161.2	162.0	162.9	1.300
1.400	162.9	163.8	164.7	165.5	166.4	167.3	168.1	169.0	169.9	170.8	171.7	1.400
1.500	171.7	172.6	173.4	174.3	175.1	175.9	176.8	177.7	178.6	179.5	180.4	1.500
1.600	180.4	181.3	182.1	182.9	183.8	184.6	185.5	186.3	187.2	188.0	188.9	1.600
1.700	188.9	189.8	190.7	191.5	192.3	193.2	194.0	194.9	195.8	196.6	197.5	1.700
1.800	197.5	198.3	199.2	200.0	200.8	201.7	202.6	203.4	204.3	205.1	206.0	1.800
1.900	206.0	206.8	207.7	208.5	209.3	210.2	211.0	211.9	212.8	213.6	214.4	1.900
2.000	214.4	215.3	216.1	216.9	217.8	218.6	219.5	220.3	221.2	222.0	222.8	2.000
2.100	222.8	223.7	224.5	225.3	226.2	227.0	227.8	228.7	229.5	230.3	231.2	2.100
2.200	231.2	232.0	232.8	233.7	234.5	235.3	236.1	236.9	237.7	238.6	239.4	2.200
2.300	239.4	240.3	241.1	241.9	242.7	243.5	244.3	245.1	245.9	246.7	247.6	2.300
2.400	247.6	248.4	249.3	250.1	250.9	251.7	252.5	253.3	254.2	255.0	255.8	2.400
2.500	255.8	256.6	257.4	258.2	259.0	259.8	260.7	261.5	262.3	263.1	263.9	2.500
2.600	263.9	264.7	265.5	266.3	267.1	267.9	268.7	269.5	270.3	271.2	272.0	2.600
2.700	272.0	272.8	273.6	274.4	275.2	276.0	276.8	277.6	278.4	279.2	280.0	2.700
2.800	280.0	280.8	281.6	282.4	283.2	284.0	284.8	285.6	286.4	287.2	288.0	2.800
2.900	288.0	288.8	289.6	290.4	291.2	292.0	292.8	293.5	294.3	295.1	295.9	2.900
3.000	295.9	296.7	297.5	298.3	299.1	299.9	300.7	301.5	302.2	303.0	303.8	3.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
3.000	295.9	296.7	297.5	298.3	299.1	299.9	300.7	301.5	302.2	303.0	303.8	3.000
3.100	303.8	304.6	305.4	306.2	306.9	307.7	308.5	309.3	310.1	310.9	311.7	3.100
3.200	311.7	312.5	313.2	314.0	314.8	315.6	316.4	317.2	317.9	318.7	319.5	3.200
3.300	319.5	320.3	321.1	321.9	322.7	323.5	324.2	325.0	325.8	326.6	327.4	3.300
3.400	327.4	328.2	328.9	329.7	330.5	331.2	332.0	332.8	333.6	334.4	335.2	3.400
3.500	335.2	335.9	336.7	337.5	338.2	339.0	339.8	340.6	341.4	342.2	342.9	3.500
3.600	342.9	343.7	344.5	345.2	346.0	346.8	347.5	348.3	349.1	349.9	350.7	3.600
3.700	350.7	351.5	352.2	353.0	353.8	354.5	355.3	356.1	356.8	357.6	358.4	3.700
3.800	358.4	359.2	359.9	360.7	361.5	362.2	363.0	363.8	364.5	365.3	366.1	3.800
3.900	366.1	366.8	367.6	368.4	369.2	369.9	370.7	371.5	372.2	373.0	373.8	3.900
4.000	373.8	374.5	375.3	376.1	376.8	377.6	378.4	379.1	379.9	380.6	381.4	4.000
4.100	381.4	382.1	382.9	383.6	384.4	385.2	385.9	386.7	387.5	388.2	389.0	4.100
4.200	389.0	389.8	390.5	391.2	392.0	392.8	393.5	394.3	395.0	395.8	396.5	4.200
4.300	396.5	397.2	398.0	398.8	399.5	400.3	401.1	401.8	402.5	403.3	404.1	4.300
4.400	404.1	404.8	405.6	406.3	407.1	407.8	408.6	409.4	410.1	410.8	411.5	4.400
4.500	411.5	412.3	413.1	413.8	414.5	415.3	416.1	416.8	417.5	418.3	419.1	4.500
4.600	419.1	419.8	420.5	421.3	422.1	422.8	423.5	424.3	425.0	425.8	426.5	4.600
4.700	426.5	427.3	428.0	428.8	429.5	430.2	431.0	431.7	432.4	433.2	433.9	4.700
4.800	433.9	434.6	435.4	436.1	436.9	437.6	438.4	439.1	439.8	440.6	441.3	4.800
4.900	441.3	442.1	442.8	443.5	444.3	445.0	445.8	446.5	447.2	448.0	448.7	4.900
5.000	448.7	449.5	450.2	450.9	451.6	452.4	453.1	453.9	454.6	455.4	456.1	5.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
5.000	448.7	449.5	450.2	450.9	451.6	452.4	453.1	453.9	454.6	455.4	456.1	5.000
5.100	456.1	456.8	457.5	458.3	459.0	459.8	460.5	461.2	461.9	462.7	463.4	5.100
5.200	463.4	464.1	464.9	465.6	466.4	467.1	467.8	468.5	469.2	470.0	470.7	5.200
5.300	470.7	471.4	472.2	472.9	473.6	474.4	475.1	475.8	476.5	477.3	478.0	5.300
5.400	478.0	478.7	479.4	480.1	480.9	481.6	482.4	483.1	483.8	484.5	485.2	5.400
5.500	485.2	485.9	486.7	487.4	488.1	488.9	489.6	490.3	491.0	491.7	492.4	5.500
5.600	492.4	493.1	493.9	494.6	495.4	496.1	496.8	497.5	498.2	498.9	499.6	5.600
5.700	499.6	500.4	501.1	501.8	502.5	503.2	504.0	504.7	505.4	506.1	506.9	5.700
5.800	506.9	507.6	508.3	509.0	509.7	510.4	511.1	511.9	512.6	513.3	514.0	5.800
5.900	514.0	514.7	515.4	516.1	516.9	517.6	518.3	519.0	519.7	520.4	521.1	5.900
6.000	521.1	521.8	522.5	523.2	523.9	524.6	525.4	526.1	526.8	527.5	528.2	6.000
6.100	528.2	528.9	529.6	530.3	531.0	531.7	532.4	533.1	533.9	534.6	535.3	6.100
6.200	535.3	536.0	536.7	537.4	538.1	538.8	539.5	540.2	540.9	541.6	542.3	6.200
6.300	542.3	543.0	543.7	544.4	545.1	545.8	546.5	547.2	547.9	548.6	549.3	6.300
6.400	549.3	550.0	550.7	551.4	552.1	552.8	553.5	554.2	554.9	555.6	556.3	6.400
6.500	556.3	557.0	557.7	558.4	559.1	559.8	560.5	561.2	561.9	562.6	563.4	6.500
6.600	563.4	564.1	564.8	565.5	566.2	566.9	567.5	568.2	568.9	569.6	570.3	6.600
6.700	570.3	571.0	571.7	572.4	573.1	573.8	574.5	575.2	575.9	576.6	577.3	6.700
6.800	577.3	578.0	578.7	579.3	580.0	580.7	581.4	582.1	582.8	583.5	584.1	6.800
6.900	584.1	584.8	585.5	586.2	586.9	587.6	588.3	589.0	589.7	590.4	591.1	6.900
7.000	591.1	591.8	592.5	593.1	593.8	594.5	595.2	595.9	596.6	597.3	598.0	7.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
7.000	591.1	591.8	592.5	593.1	593.8	594.5	595.2	595.9	596.6	597.3	598.0	7.000
7.100	598.0	598.7	599.3	600.0	600.7	601.4	602.1	602.8	603.5	604.1	604.8	7.100
7.200	604.8	605.5	606.2	606.9	607.5	608.2	608.9	609.6	610.3	610.9	611.6	7.200
7.300	611.6	612.3	613.0	613.7	614.4	615.1	615.7	616.4	617.1	617.8	618.5	7.300
7.400	618.5	619.2	619.9	620.5	621.2	621.9	622.6	623.3	623.9	624.6	625.3	7.400
7.500	625.3	625.9	626.6	627.3	628.0	628.7	629.3	630.0	630.6	631.3	632.0	7.500
7.600	632.0	632.7	633.4	634.1	634.7	635.4	636.1	636.7	637.4	638.1	638.8	7.600
7.700	638.8	639.5	640.1	640.8	641.5	642.2	642.9	643.5	644.2	644.9	645.5	7.700
7.800	645.5	646.2	646.9	647.5	648.2	648.9	649.5	650.2	650.9	651.6	652.3	7.800
7.900	652.3	652.9	653.6	654.3	654.9	655.6	656.3	657.0	657.7	658.3	659.0	7.900
8.000	659.0	659.6	660.3	661.0	661.7	662.3	663.0	663.7	664.3	665.0	665.7	8.000
8.100	665.7	666.3	666.9	667.6	668.3	668.9	669.6	670.3	670.9	671.6	672.3	8.100
8.200	672.3	672.9	673.6	674.3	674.9	675.6	676.3	676.9	677.6	678.3	678.9	8.200
8.300	678.9	679.6	680.3	680.9	681.6	682.3	682.9	683.6	684.2	684.9	685.5	8.300
8.400	685.5	686.2	686.9	687.5	688.2	688.9	689.5	690.2	690.9	691.5	692.2	8.400
8.500	692.2	692.9	693.5	694.1	694.8	695.5	696.1	696.8	697.4	698.1	698.7	8.500
8.600	698.7	699.4	700.1	700.7	701.4	702.0	702.7	703.3	704.0	704.7	705.3	8.600
8.700	705.3	706.0	706.7	707.3	707.9	708.6	709.3	709.9	710.6	711.2	711.9	8.700
8.800	711.9	712.5	713.2	713.8	714.4	715.1	715.8	716.4	717.1	717.7	718.4	8.800
8.900	718.4	719.1	719.7	720.4	721.1	721.7	722.3	723.0	723.6	724.3	724.9	8.900
9.000	724.9	725.6	726.2	726.9	727.5	728.1	728.8	729.4	730.1	730.7	731.4	9.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
9.000	724.9	725.6	726.2	726.9	727.5	728.1	728.8	729.4	730.1	730.7	731.4	9.000
9.100	731.4	732.1	732.7	733.4	734.0	734.7	735.3	735.9	736.6	737.3	737.9	9.100
9.200	737.9	738.6	739.2	739.8	740.5	741.1	741.7	742.4	743.1	743.7	744.4	9.200
9.300	744.4	745.1	745.7	746.3	747.0	747.6	748.2	748.9	749.5	750.2	750.8	9.300
9.400	750.8	751.4	752.1	752.7	753.4	754.0	754.6	755.3	755.9	756.6	757.3	9.400
9.500	757.3	757.9	758.5	759.2	759.8	760.4	761.1	761.7	762.4	763.0	763.6	9.500
9.600	763.6	764.3	764.9	765.6	766.2	766.8	767.5	768.1	768.7	769.4	770.1	9.600
9.700	770.1	770.7	771.3	772.0	772.6	773.2	773.9	774.5	775.1	775.7	776.4	9.700
9.800	776.4	777.1	777.7	778.3	778.9	779.6	780.2	780.9	781.5	782.2	782.8	9.800
9.900	782.8	783.4	784.1	784.7	785.3	785.9	786.6	787.2	787.9	788.5	789.1	9.900
10.000	789.1	789.8	790.4	791.0	791.6	792.3	792.9	793.6	794.2	794.9	795.5	10.000
10.100	795.5	796.1	796.8	797.4	798.0	798.6	799.3	799.9	800.5	801.1	801.8	10.100
10.200	801.8	802.4	803.0	803.6	804.3	804.9	805.5	806.1	806.8	807.4	808.1	10.200
10.300	808.1	808.7	809.3	809.9	810.6	811.2	811.8	812.4	813.1	813.7	814.3	10.300
10.400	814.3	815.0	815.6	816.3	816.9	817.5	818.1	818.8	819.4	820.0	820.6	10.400
10.500	820.6	821.3	821.9	822.5	823.1	823.8	824.4	825.0	825.6	826.3	826.9	10.500
10.600	826.9	827.5	828.1	828.8	829.4	830.0	830.6	831.3	831.9	832.5	833.1	10.600
10.700	833.1	833.8	834.4	835.0	835.6	836.3	836.9	837.5	838.1	838.7	839.3	10.700
10.800	839.3	839.9	840.6	841.2	841.8	842.4	843.1	843.7	844.3	844.9	845.6	10.800
10.900	845.6	846.2	846.8	847.4	848.1	848.7	849.3	849.9	850.5	851.1	851.7	10.900
11.000	851.7	852.4	853.0	853.6	854.2	854.8	855.4	856.1	856.7	857.3	857.9	11.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
11.000	851.7	852.4	853.0	853.6	854.2	854.8	855.4	856.1	856.7	857.3	857.9	11.000
11.100	857.9	858.6	859.2	859.8	860.4	861.0	861.6	862.3	862.9	863.5	864.1	11.100
11.200	864.1	864.7	865.3	865.9	866.5	867.2	867.8	868.4	869.0	869.6	870.3	11.200
11.300	870.3	870.9	871.5	872.1	872.7	873.3	873.9	874.6	875.2	875.8	876.4	11.300
11.400	876.4	877.0	877.6	878.2	878.8	879.4	880.1	880.7	881.3	881.9	882.5	11.400
11.500	882.5	883.1	883.8	884.4	885.0	885.6	886.2	886.8	887.4	888.0	888.6	11.500
11.600	888.6	889.3	889.9	890.5	891.1	891.7	892.3	892.9	893.5	894.1	894.7	11.600
11.700	894.7	895.3	895.9	896.5	897.1	897.7	898.4	899.0	899.6	900.2	900.8	11.700
11.800	900.8	901.4	902.0	902.6	903.2	903.8	904.4	905.1	905.7	906.3	906.9	11.800
11.900	906.9	907.5	908.1	908.7	909.3	909.9	910.5	911.1	911.7	912.3	912.9	11.900
12.000	912.9	913.5	914.1	914.7	915.3	915.9	916.5	917.1	917.7	918.3	918.9	12.000
12.100	918.9	919.5	920.1	920.7	921.4	922.0	922.6	923.2	923.8	924.4	925.0	12.100
12.200	925.0	925.6	926.2	926.8	927.4	927.9	928.5	929.1	929.7	930.3	930.9	12.200
12.300	930.9	931.5	932.1	932.7	933.3	933.9	934.5	935.1	935.7	936.3	936.9	12.300
12.400	936.9	937.5	938.1	938.7	939.3	939.9	940.5	941.1	941.7	942.3	942.9	12.400
12.500	942.9	943.5	944.1	944.7	945.3	945.9	946.5	947.1	947.6	948.2	948.8	12.500
12.600	948.8	949.4	950.0	950.6	951.2	951.8	952.4	953.0	953.6	954.2	954.8	12.600
12.700	954.8	955.4	956.0	956.6	957.2	957.8	958.4	959.0	959.6	960.2	960.8	12.700
12.800	960.8	961.4	961.9	962.5	963.1	963.7	964.3	964.9	965.5	966.1	966.6	12.800
12.900	966.6	967.2	967.8	968.4	969.0	969.6	970.2	970.8	971.4	971.9	972.5	12.900
13.000	972.5	973.1	973.7	974.3	974.9	975.5	976.1	976.6	977.2	977.8	978.4	13.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
13.000	972.5	973.1	973.7	974.3	974.9	975.5	976.1	976.6	977.2	977.8	978.4	13.000
13.100	978.4	979.0	979.6	980.2	980.8	981.3	981.9	982.5	983.1	983.6	984.2	13.100
13.200	984.2	984.8	985.4	986.0	986.6	987.2	987.8	988.4	988.9	989.5	990.1	13.200
13.300	990.1	990.7	991.3	991.9	992.5	993.1	993.6	994.2	994.8	995.4	995.9	13.300
13.400	995.9	996.5	997.1	997.7	998.3	998.8	999.4	1000.0	1000.6	1001.2	1001.7	13.400
13.500	1001.7	1002.3	1002.9	1003.5	1004.1	1004.7	1005.2	1005.8	1006.3	1006.9	1007.5	14.500
13.600	1007.5	1008.1	1008.7	1009.3	1009.8	1010.4	1011.0	1011.6	1012.2	1012.7	1013.3	13.600
13.700	1013.3	1013.9	1014.5	1015.1	1015.6	1016.2	1016.8	1017.4	1017.9	1018.5	1019.1	13.700
13.800	1019.1	1019.6	1020.2	1020.8	1021.4	1021.9	1022.5	1023.1	1023.7	1024.2	1024.8	13.800
13.900	1024.8	1025.4	1025.9	1026.5	1027.1	1027.7	1028.2	1028.8	1029.4	1029.9	1030.5	13.900
14.000	1030.5	1031.1	1031.7	1032.3	1032.8	1033.4	1034.0	1034.6	1035.1	1035.7	1036.3	14.000
14.100	1036.3	1036.8	1037.4	1038.0	1038.6	1039.1	1039.7	1040.3	1040.8	1041.4	1042.0	14.100
14.200	1042.0	1042.6	1043.1	1043.7	1044.3	1044.8	1045.4	1046.0	1046.6	1047.1	1047.7	14.200
14.300	1047.7	1048.3	1048.8	1049.4	1049.9	1050.5	1051.1	1051.7	1052.2	1052.8	1053.4	14.300
14.400	1053.4	1053.9	1054.5	1055.1	1055.7	1056.2	1056.8	1057.4	1057.9	1058.5	1059.1	14.400
14.500	1059.1	1059.6	1060.2	1060.8	1061.3	1061.9	1062.4	1063.0	1063.6	1064.2	1064.7	14.500
14.600	1064.7	1065.3	1065.8	1066.4	1067.0	1067.6	1068.1	1068.7	1069.2	1069.8	1070.4	14.600
14.700	1070.4	1070.9	1071.5	1072.1	1072.6	1073.2	1073.8	1074.3	1074.9	1075.4	1076.0	14.700
14.800	1076.0	1076.6	1077.1	1077.7	1078.3	1078.9	1079.4	1079.9	1080.5	1081.1	1081.7	14.800
14.900	1081.7	1082.2	1082.8	1083.3	1083.9	1084.4	1085.0	1085.6	1086.1	1086.7	1087.2	14.900
15.000	1087.2	1087.8	1088.4	1088.9	1089.5	1090.1	1090.6	1091.2	1091.7	1092.3	1092.8	15.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
15.000	1087.2	1087.8	1088.4	1088.9	1089.5	1090.1	1090.6	1091.2	1091.7	1092.3	1092.8	15.000
15.100	1092.8	1093.4	1094.0	1094.6	1095.1	1095.7	1096.2	1096.8	1097.3	1097.9	1098.4	15.100
15.200	1098.4	1099.0	1099.6	1100.1	1100.7	1101.2	1101.8	1102.3	1102.9	1103.4	1104.0	15.200
15.300	1104.0	1104.6	1105.2	1105.7	1106.3	1106.8	1107.4	1107.9	1108.5	1109.1	1109.6	15.300
15.400	1109.6	1110.1	1110.7	1111.3	1111.8	1112.4	1112.9	1113.5	1114.1	1114.6	1115.2	15.400
15.500	1115.2	1115.7	1116.3	1116.8	1117.4	1117.9	1118.5	1119.1	1119.6	1120.2	1120.7	15.500
15.600	1120.7	1121.3	1121.8	1122.4	1122.9	1123.5	1124.0	1124.6	1125.1	1125.7	1126.2	15.600
15.700	1126.2	1126.8	1127.3	1127.9	1128.4	1129.0	1129.6	1130.1	1130.7	1131.2	1131.8	15.700
15.800	1131.8	1132.3	1132.9	1133.4	1133.9	1134.5	1135.1	1135.6	1136.2	1136.7	1137.3	15.800
15.900	1137.3	1137.8	1138.4	1138.9	1139.5	1140.1	1140.6	1141.1	1141.7	1142.2	1142.8	15.900
16.000	1142.8	1143.3	1143.9	1144.4	1145.0	1145.5	1146.1	1146.6	1147.2	1147.7	1148.3	16.000
16.100	1148.3	1148.8	1149.3	1149.8	1150.4	1150.9	1151.5	1152.1	1152.6	1153.2	1153.7	16.100
16.200	1153.7	1154.2	1154.8	1155.3	1155.9	1156.4	1157.0	1157.5	1158.1	1158.6	1159.2	16.200
16.300	1159.2	1159.7	1160.3	1160.8	1161.3	1161.9	1162.4	1163.0	1163.5	1164.1	1164.6	16.300
16.400	1164.6	1165.2	1165.7	1166.3	1166.8	1167.3	1167.9	1168.4	1169.0	1169.5	1170.1	16.400
16.500	1170.1	1170.6	1171.2	1171.7	1172.3	1172.8	1173.3	1173.9	1174.4	1174.9	1175.5	16.500
16.600	1175.5	1176.1	1176.6	1177.2	1177.7	1178.2	1178.8	1179.3	1179.8	1180.4	1180.9	16.600
16.700	1180.9	1181.5	1182.0	1182.5	1183.1	1183.7	1184.2	1184.7	1185.3	1185.8	1186.4	16.700
16.800	1186.4	1186.9	1187.4	1188.0	1188.5	1189.1	1189.6	1190.2	1190.7	1191.2	1191.8	16.800
16.900	1191.8	1192.3	1192.8	1193.4	1193.9	1194.4	1194.9	1195.5	1196.0	1196.6	1197.1	16.900
17.000	1197.1	1197.6	1198.2	1198.7	1199.3	1199.8	1200.3	1200.9	1201.4	1201.9	1202.5	17.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
17.000	1197.1	1197.6	1198.2	1198.7	1199.3	1199.8	1200.3	1200.9	1201.4	1201.9	1202.5	17.000
17.100	1202.5	1203.1	1203.6	1204.1	1204.6	1205.2	1205.7	1206.3	1206.8	1207.3	1207.8	17.100
17.200	1207.8	1208.4	1208.9	1209.5	1210.0	1210.6	1211.1	1211.6	1212.2	1212.7	1213.2	17.200
17.300	1213.2	1213.8	1214.3	1214.8	1215.4	1215.9	1216.4	1217.0	1217.5	1218.1	1218.6	17.300
17.400	1218.6	1219.1	1219.6	1220.2	1220.7	1221.3	1221.8	1222.3	1222.8	1223.4	1223.9	17.400
17.500	1223.9	1224.5	1225.0	1225.5	1226.1	1226.6	1227.1	1227.6	1228.2	1228.7	1229.2	17.500
17.600	1229.2	1229.7	1230.3	1230.8	1231.3	1231.9	1232.4	1232.9	1233.5	1234.0	1234.5	17.600
17.700	1234.5	1235.1	1235.6	1236.1	1236.7	1237.2	1237.7	1238.3	1238.8	1239.3	1239.8	17.700
17.800	1239.8	1240.4	1240.9	1241.4	1241.9	1242.5	1243.1	1243.6	1244.1	1244.6	1245.2	17.800
17.900	1245.2	1245.7	1246.2	1246.7	1247.3	1247.8	1248.3	1248.8	1249.4	1249.9	1250.4	17.900
18.000	1250.4	1250.9	1251.5	1252.1	1252.6	1253.1	1253.6	1254.2	1254.7	1255.2	1255.7	18.000
18.100	1255.7	1256.2	1256.7	1257.3	1257.8	1258.3	1258.8	1259.4	1259.9	1260.4	1260.9	18.100
18.200	1260.9	1261.5	1262.0	1262.5	1263.1	1263.6	1264.1	1264.6	1265.2	1265.7	1266.2	18.200
18.300	1266.2	1266.7	1267.3	1267.8	1268.3	1268.8	1269.4	1269.9	1270.4	1270.9	1271.5	18.300
18.400	1271.5	1272.0	1272.5	1273.1	1273.6	1274.1	1274.6	1275.2	1275.7	1276.2	1276.7	18.400
18.500	1276.7	1277.3	1277.8	1278.3	1278.8	1279.3	1279.8	1280.4	1280.9	1281.4	1281.9	18.500
18.600	1281.9	1282.5	1283.0	1283.5	1284.0	1284.5	1285.1	1285.6	1286.1	1286.6	1287.1	18.600
18.700	1287.1	1287.6	1288.2	1288.7	1289.2	1289.7	1290.3	1290.8	1291.3	1291.8	1292.4	18.700
18.800	1292.4	1292.9	1293.4	1293.9	1294.4	1294.9	1295.5	1296.0	1296.5	1297.1	1297.6	18.800
18.900	1297.6	1298.1	1298.6	1299.1	1299.6	1300.2	1300.7	1301.2	1301.7	1302.2	1302.7	18.900
19.000	1302.7	1303.3	1303.8	1304.3	1304.8	1305.4	1305.9	1306.4	1306.9	1307.4	1307.9	19.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
19.000	1302.7	1303.3	1303.8	1304.3	1304.8	1305.4	1305.9	1306.4	1306.9	1307.4	1307.9	19.000
19.100	1307.9	1308.4	1308.9	1309.4	1309.9	1310.5	1311.0	1311.5	1312.1	1312.6	1313.1	19.100
19.200	1313.1	1313.6	1314.1	1314.6	1315.2	1315.7	1316.2	1316.7	1317.2	1317.7	1318.3	19.200
19.300	1318.3	1318.8	1319.3	1319.8	1320.3	1320.8	1321.3	1321.8	1322.4	1322.9	1323.4	19.300
19.400	1323.4	1323.9	1324.4	1324.9	1325.5	1326.0	1326.5	1327.0	1327.5	1328.0	1328.5	19.400
19.500	1328.5	1329.0	1329.5	1330.1	1330.6	1331.1	1331.6	1332.2	1332.7	1333.2	1333.7	19.500
19.600	1333.7	1334.2	1334.7	1335.2	1335.7	1336.2	1336.7	1337.3	1337.8	1338.3	1338.8	19.600
19.700	1338.8	1339.3	1339.8	1340.3	1340.8	1341.4	1341.9	1342.4	1342.9	1343.4	1343.9	19.700
19.800	1343.9	1344.4	1344.9	1345.5	1346.0	1346.5	1347.0	1347.5	1348.0	1348.5	1349.0	19.800
19.900	1349.0	1349.5	1350.0	1350.5	1351.0	1351.5	1352.0	1352.5	1353.0	1353.5	1354.1	19.900
20.000	1354.1	1354.6	1355.1	1355.6	1356.1	1356.6	1357.2	1357.7	1358.2	1358.7	1359.2	20.000
20.100	1359.2	1359.7	1360.2	1360.7	1361.2	1361.7	1362.2	1362.7	1363.3	1363.8	1364.3	20.100
20.200	1364.3	1364.8	1365.3	1365.8	1366.3	1366.8	1367.3	1367.8	1368.3	1368.8	1369.3	20.200
20.300	1369.3	1369.8	1370.4	1370.9	1371.4	1371.9	1372.4	1372.9	1373.4	1373.9	1374.4	20.300
20.400	1374.4	1374.9	1375.4	1375.9	1376.4	1376.9	1377.4	1377.9	1378.4	1378.9	1379.4	20.400
20.500	1379.4	1379.9	1380.5	1381.0	1381.5	1382.0	1382.5	1383.0	1383.5	1384.0	1384.5	20.500
20.600	1384.5	1385.0	1385.5	1386.0	1386.5	1387.0	1387.5	1388.0	1388.5	1389.0	1389.5	20.600
20.700	1389.5	1390.0	1390.5	1391.0	1391.5	1392.0	1392.5	1393.0	1393.5	1394.0	1394.5	20.700
20.800	1394.5	1395.0	1395.5	1396.0	1396.5	1397.0	1397.5	1398.0	1398.5	1399.0	1399.5	20.800
20.900	1399.5	1400.0	1400.5	1401.0	1401.5	1402.0	1402.5	1403.0	1403.5	1404.0	1404.5	20.900
21.000	1404.5	1405.0	1405.5	1406.0	1406.5	1407.1	1407.6	1408.1	1408.6	1409.1	1409.6	21.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
21.000	1404.5	1405.0	1405.5	1406.0	1406.5	1407.1	1407.6	1408.1	1408.6	1409.1	1409.6	21.000
21.100	1409.6	1410.1	1410.6	1411.1	1411.6	1412.1	1412.6	1413.1	1413.6	1414.1	1414.6	21.100
21.200	1414.6	1415.1	1415.6	1416.1	1416.6	1417.1	1417.6	1418.1	1418.5	1419.0	1419.5	21.200
21.300	1419.5	1420.0	1420.5	1421.0	1421.5	1422.0	1422.5	1423.0	1423.5	1424.0	1424.5	21.300
21.400	1424.5	1425.0	1425.5	1426.0	1426.5	1427.0	1427.5	1428.0	1428.5	1429.0	1429.5	21.400
21.500	1429.5	1430.0	1430.5	1431.0	1431.5	1432.0	1432.5	1433.0	1433.4	1433.9	1434.4	21.500
21.600	1434.4	1434.9	1435.4	1435.9	1436.4	1436.9	1437.4	1437.9	1438.4	1438.9	1439.4	21.600
21.700	1439.4	1439.9	1440.4	1440.9	1441.3	1441.8	1442.3	1442.8	1443.3	1443.8	1444.3	21.700
21.800	1444.3	1444.8	1445.3	1445.8	1446.3	1446.8	1447.3	1447.8	1448.3	1448.8	1449.3	21.800
21.900	1449.3	1449.8	1450.3	1450.8	1451.2	1451.7	1452.2	1452.7	1453.2	1453.7	1454.2	21.900
22.000	1454.2	1454.7	1455.2	1455.7	1456.1	1456.6	1457.1	1457.6	1458.1	1458.6	1459.0	22.000
22.100	1459.0	1459.5	1460.0	1460.5	1461.0	1461.5	1462.0	1462.5	1463.0	1463.5	1464.0	22.100
22.200	1464.0	1464.5	1465.0	1465.5	1466.0	1466.5	1467.0	1467.4	1467.9	1468.4	1468.9	22.200
22.300	1468.9	1469.4	1469.9	1470.3	1470.8	1471.3	1471.8	1472.3	1472.8	1473.3	1473.8	22.300
22.400	1473.8	1474.3	1474.8	1475.3	1475.8	1476.2	1476.7	1477.2	1477.7	1478.2	1478.7	22.400
22.500	1478.7	1479.2	1479.7	1480.2	1480.6	1481.1	1481.6	1482.1	1482.6	1483.1	1483.5	22.500
22.600	1483.5	1484.0	1484.5	1485.0	1485.5	1486.0	1486.5	1487.0	1487.4	1487.9	1488.4	22.600
22.700	1488.4	1488.9	1489.4	1489.9	1490.4	1490.9	1491.3	1491.8	1492.3	1492.8	1493.3	22.700
22.800	1493.3	1493.8	1494.3	1494.8	1495.2	1495.7	1496.2	1496.7	1497.1	1497.6	1498.1	22.800
22.900	1498.1	1498.6	1499.1	1499.6	1500.1	1500.5	1501.0	1501.5	1502.0	1502.5	1503.0	22.900
23.000	1503.0	1503.5	1504.0	1504.4	1504.9	1505.4	1505.9	1506.4	1506.8	1507.3	1507.8	23.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
23.000	1503.0	1503.5	1504.0	1504.4	1504.9	1505.4	1505.9	1506.4	1506.8	1507.3	1507.8	23.000
23.100	1507.8	1508.3	1508.8	1509.2	1509.7	1510.2	1510.7	1511.2	1511.7	1512.1	1512.6	23.100
23.200	1512.6	1513.1	1513.6	1514.1	1514.6	1515.1	1515.5	1516.0	1516.5	1517.0	1517.5	23.200
23.300	1517.5	1518.0	1518.4	1518.9	1519.4	1519.9	1520.4	1520.9	1521.3	1521.8	1522.3	23.300
23.400	1522.3	1522.8	1523.2	1523.7	1524.2	1524.7	1525.1	1525.6	1526.1	1526.6	1527.1	23.400
23.500	1527.1	1527.6	1528.1	1528.5	1529.0	1529.5	1530.0	1530.5	1531.0	1531.4	1531.9	23.500
23.600	1531.9	1532.4	1532.9	1533.3	1533.8	1534.3	1534.8	1535.3	1535.8	1536.2	1536.7	23.600
23.700	1536.7	1537.2	1537.7	1538.1	1538.6	1539.1	1539.6	1540.1	1540.5	1541.0	1541.5	23.700
23.800	1541.5	1542.0	1542.4	1542.9	1543.4	1543.9	1544.3	1544.8	1545.3	1545.8	1546.3	23.800
23.900	1546.3	1546.8	1547.2	1547.7	1548.2	1548.7	1549.1	1549.6	1550.1	1550.6	1551.1	23.900
24.000	1551.1	1551.5	1552.0	1552.5	1553.0	1553.4	1553.9	1554.4	1554.9	1555.3	1555.8	24.000
24.100	1555.8	1556.3	1556.8	1557.2	1557.7	1558.2	1558.7	1559.1	1559.6	1560.1	1560.6	24.100
24.200	1560.6	1561.1	1561.5	1562.0	1562.5	1563.0	1563.4	1563.9	1564.4	1564.9	1565.3	24.200
24.300	1565.3	1565.8	1566.3	1566.8	1567.2	1567.7	1568.2	1568.7	1569.1	1569.6	1570.1	24.300
24.400	1570.1	1570.6	1571.1	1571.5	1572.0	1572.5	1573.0	1573.4	1573.9	1574.4	1574.9	24.400
24.500	1574.9	1575.3	1575.8	1576.2	1576.7	1577.2	1577.7	1578.1	1578.6	1579.1	1579.6	24.500
24.600	1579.6	1580.0	1580.5	1581.0	1581.5	1581.9	1582.4	1582.9	1583.3	1583.8	1584.3	24.600
24.700	1584.3	1584.8	1585.2	1585.7	1586.2	1586.7	1587.1	1587.6	1588.1	1588.5	1589.0	24.700
24.800	1589.0	1589.5	1590.0	1590.4	1590.9	1591.3	1591.8	1592.3	1592.8	1593.2	1593.7	24.800
24.900	1593.7	1594.2	1594.7	1595.1	1595.6	1596.1	1596.5	1597.0	1597.5	1598.0	1598.4	24.900
25.000	1598.4	1598.9	1599.4	1599.9	1600.3	1600.8	1601.3	1601.7	1602.2	1602.7	1603.1	25.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
25.000	1598.4	1598.9	1599.4	1599.9	1600.3	1600.8	1601.3	1601.7	1602.2	1602.7	1603.1	25.000
25.100	1603.1	1603.6	1604.1	1604.6	1605.1	1605.5	1606.0	1606.5	1606.9	1607.4	1607.9	25.100
25.200	1607.9	1608.3	1608.8	1609.3	1609.8	1610.2	1610.7	1611.1	1611.6	1612.0	1612.5	25.200
25.300	1612.5	1613.0	1613.5	1613.9	1614.4	1614.9	1615.3	1615.8	1616.3	1616.7	1617.2	25.300
25.400	1617.2	1617.7	1618.1	1618.6	1619.1	1619.6	1620.1	1620.5	1621.0	1621.4	1621.9	25.400
25.500	1621.9	1622.4	1622.9	1623.3	1623.8	1624.2	1624.7	1625.2	1625.6	1626.1	1626.6	25.500
25.600	1626.6	1627.1	1627.5	1628.0	1628.5	1628.9	1629.4	1629.9	1630.3	1630.8	1631.2	25.600
25.700	1631.2	1631.7	1632.1	1632.6	1633.1	1633.5	1634.0	1634.5	1635.0	1635.4	1635.9	25.700
25.800	1635.9	1636.4	1636.8	1637.3	1637.8	1638.2	1638.7	1639.1	1639.6	1640.1	1640.6	25.800
25.900	1640.6	1641.0	1641.5	1642.0	1642.4	1642.8	1643.3	1643.8	1644.2	1644.7	1645.2	25.900
26.000	1645.2	1645.7	1646.1	1646.6	1647.1	1647.5	1648.0	1648.5	1648.9	1649.4	1649.9	26.000
26.100	1649.9	1650.3	1650.8	1651.2	1651.7	1652.2	1652.6	1653.1	1653.6	1654.0	1654.5	26.100
26.200	1654.5	1654.9	1655.4	1655.9	1656.3	1656.8	1657.2	1657.7	1658.2	1658.6	1659.1	26.200
26.300	1659.1	1659.5	1660.0	1660.5	1661.0	1661.4	1661.9	1662.3	1662.8	1663.3	1663.7	26.300
26.400	1663.7	1664.2	1664.6	1665.1	1665.6	1666.1	1666.5	1667.0	1667.4	1667.9	1668.4	26.400
26.500	1668.4	1668.8	1669.3	1669.7	1670.2	1670.7	1671.1	1671.6	1672.1	1672.5	1673.0	26.500
26.600	1673.0	1673.4	1673.9	1674.3	1674.8	1675.2	1675.7	1676.1	1676.6	1677.1	1677.6	26.600
26.700	1677.6	1678.0	1678.5	1678.9	1679.4	1679.9	1680.3	1680.8	1681.2	1681.7	1682.1	26.700
26.800	1682.1	1682.6	1683.0	1683.5	1684.0	1684.5	1684.9	1685.4	1685.8	1686.3	1686.8	26.800
26.900	1686.8	1687.2	1687.7	1688.1	1688.6	1689.1	1689.5	1690.0	1690.4	1690.9	1691.4	26.900
27.000	1691.4	1691.8	1692.3	1692.7	1693.2	1693.6	1694.1	1694.6	1695.0	1695.5	1695.9	27.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
27.000	1691.4	1691.8	1692.3	1692.7	1693.2	1693.6	1694.1	1694.6	1695.0	1695.5	1695.9	27.000
27.100	1695.9	1696.4	1696.8	1697.3	1697.7	1698.2	1698.6	1699.1	1699.5	1700.0	1700.5	27.100
27.200	1700.5	1701.0	1701.4	1701.9	1702.3	1702.8	1703.2	1703.7	1704.1	1704.6	1705.0	27.200
27.300	1705.0	1705.5	1706.0	1706.4	1706.9	1707.3	1707.8	1708.3	1708.7	1709.2	1709.6	27.300
27.400	1709.6	1710.1	1710.6	1711.0	1711.5	1711.9	1712.4	1712.8	1713.3	1713.7	1714.2	27.400
27.500	1714.2	1714.6	1715.1	1715.6	1716.0	1716.5	1716.9	1717.4	1717.9	1718.3	1718.8	27.500
27.600	1718.8	1719.2	1719.7	1720.1	1720.6	1721.1	1721.5	1722.0	1722.4	1722.9	1723.3	27.600
27.700	1723.3	1723.8	1724.2	1724.7	1725.1	1725.6	1726.1	1726.5	1727.0	1727.4	1727.9	27.700
27.800	1727.9	1728.3	1728.8	1729.2	1729.7	1730.1	1730.6	1731.0	1731.5	1732.0	1732.4	27.800
27.900	1732.4	1732.9	1733.3	1733.8	1734.2	1734.7	1735.1	1735.6	1736.0	1736.5	1736.9	27.900
28.000	1736.9	1737.4	1737.8	1738.3	1738.7	1739.2	1739.6	1740.1	1740.6	1741.0	1741.5	28.000
28.100	1741.5	1741.9	1742.4	1742.8	1743.2	1743.7	1744.1	1744.6	1745.1	1745.5	1746.0	28.100
28.200	1746.0	1746.4	1746.9	1747.3	1747.8	1748.2	1748.7	1749.1	1749.6	1750.1	1750.5	28.200
28.300	1750.5	1751.0	1751.4	1751.9	1752.3	1752.7	1753.2	1753.6	1754.1	1754.6	1755.0	28.300
28.400	1755.0	1755.5	1755.9	1756.4	1756.8	1757.3	1757.8	1758.2	1758.6	1759.0	1759.5	28.400
28.500	1759.5	1760.0	1760.4	1760.9	1761.3	1761.8	1762.2	1762.7	1763.1	1763.6	1764.0	28.500
28.600	1764.0	1764.5	1764.9	1765.4	1765.8	1766.3	1766.7	1767.2	1767.6	1768.1	1768.5	28.600
28.700	1768.5	1769.0	1769.4	1769.9	1770.3	1770.8	1771.2	1771.7	1772.1	1772.6	1773.0	28.700
28.800	1773.0	1773.5	1773.9	1774.4	1774.8	1775.3	1775.7	1776.2	1776.6	1777.1	1777.5	28.800
28.900	1777.5	1778.0	1778.4	1778.9	1779.3	1779.7	1780.2	1780.6	1781.1	1781.6	1782.0	28.900
29.000	1782.0	1782.5	1782.9	1783.4	1783.8	1784.2	1784.7	1785.1	1785.6	1786.0	1786.5	29.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
29.000	1782.0	1782.5	1782.9	1783.4	1783.8	1784.2	1784.7	1785.1	1785.6	1786.0	1786.5	29.000
29.100	1786.5	1786.9	1787.4	1787.8	1788.3	1788.7	1789.2	1789.6	1790.0	1790.5	1791.0	29.100
29.200	1791.0	1791.4	1791.8	1792.3	1792.7	1793.2	1793.6	1794.1	1794.5	1795.0	1795.4	29.200
29.300	1795.4	1795.9	1796.3	1796.8	1797.2	1797.7	1798.1	1798.6	1799.0	1799.4	1799.9	29.300
29.400	1799.9	1800.3	1800.8	1801.2	1801.7	1802.1	1802.6	1803.0	1803.4	1803.9	1804.3	29.400
29.500	1804.3	1804.8	1805.2	1805.7	1806.1	1806.6	1807.0	1807.5	1807.9	1808.4	1808.9	29.500
29.600	1808.9	1809.3	1809.7	1810.1	1810.6	1811.0	1811.5	1811.9	1812.4	1812.8	1813.3	29.600
29.700	1813.3	1813.7	1814.1	1814.6	1815.0	1815.5	1815.9	1816.4	1816.8	1817.3	1817.7	29.700
29.800	1817.7	1818.1	1818.6	1819.0	1819.5	1819.9	1820.4	1820.8	1821.3	1821.7	1822.1	29.800
29.900	1822.1	1822.6	1823.0	1823.5	1823.9	1824.3	1824.8	1825.2	1825.7	1826.1	1826.6	29.900
30.000	1826.6	1827.0	1827.5	1827.9	1828.4	1828.8	1829.2	1829.7	1830.1	1830.6	1831.0	30.000
30.100	1831.0	1831.4	1831.9	1832.3	1832.8	1833.2	1833.7	1834.1	1834.6	1835.0	1835.4	30.100
30.200	1835.4	1835.9	1836.3	1836.7	1837.2	1837.6	1838.1	1838.5	1839.0	1839.4	1839.9	30.200
30.300	1839.9	1840.3	1840.7	1841.2	1841.6	1842.0	1842.5	1843.0	1843.4	1843.8	1844.3	30.300
30.400	1844.3	1844.7	1845.1	1845.6	1846.0	1846.5	1846.9	1847.3	1847.8	1848.2	1848.7	30.400
30.500	1848.7	1849.1	1849.6	1850.0	1850.4	1850.9	1851.3	1851.8	1852.2	1852.7	1853.1	30.500
30.600	1853.1	1853.5	1854.0	1854.4	1854.9	1855.3	1855.8	1856.2	1856.7	1857.1	1857.5	30.600
30.700	1857.5	1858.0	1858.4	1858.9	1859.3	1859.7	1860.2	1860.6	1861.0	1861.5	1861.9	30.700
30.800	1861.9	1862.4	1862.8	1863.3	1863.7	1864.1	1864.6	1865.0	1865.4	1865.9	1866.3	30.800
30.900	1866.3	1866.8	1867.2	1867.7	1868.1	1868.5	1869.0	1869.4	1869.8	1870.3	1870.7	30.900
31.000	1870.7	1871.1	1871.6	1872.0	1872.5	1872.9	1873.4	1873.8	1874.2	1874.7	1875.1	31.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
31.000	1870.7	1871.1	1871.6	1872.0	1872.5	1872.9	1873.4	1873.8	1874.2	1874.7	1875.1	31.000
31.100	1875.1	1875.5	1876.0	1876.4	1876.9	1877.3	1877.7	1878.2	1878.6	1879.0	1879.5	31.100
31.200	1879.5	1879.9	1880.3	1880.8	1881.2	1881.7	1882.1	1882.5	1883.0	1883.4	1883.9	31.200
31.300	1883.9	1884.3	1884.7	1885.2	1885.6	1886.0	1886.5	1886.9	1887.4	1887.8	1888.2	31.300
31.400	1888.2	1888.7	1889.1	1889.5	1890.0	1890.4	1890.8	1891.3	1891.7	1892.2	1892.6	31.400
31.500	1892.6	1893.0	1893.5	1893.9	1894.4	1894.8	1895.2	1895.7	1896.1	1896.5	1897.0	31.500
31.600	1897.0	1897.4	1897.8	1898.3	1898.7	1899.1	1899.6	1900.0	1900.4	1900.9	1901.3	31.600
31.700	1901.3	1901.7	1902.2	1902.6	1903.0	1903.5	1903.9	1904.4	1904.8	1905.2	1905.7	31.700
31.800	1905.7	1906.1	1906.5	1907.0	1907.4	1907.8	1908.3	1908.7	1909.1	1909.6	1910.0	31.800
31.900	1910.0	1910.4	1910.9	1911.3	1911.8	1912.2	1912.7	1913.1	1913.5	1914.0	1914.4	31.900
32.000	1914.4	1914.8	1915.3	1915.7	1916.1	1916.6	1917.0	1917.4	1917.9	1918.3	1918.7	32.000
32.100	1918.7	1919.2	1919.6	1920.0	1920.5	1920.9	1921.3	1921.8	1922.2	1922.7	1923.1	32.100
32.200	1923.1	1923.5	1924.0	1924.4	1924.8	1925.3	1925.7	1926.1	1926.6	1927.0	1927.4	32.200
32.300	1927.4	1927.9	1928.3	1928.7	1929.2	1929.6	1930.0	1930.4	1930.9	1931.3	1931.7	32.300
32.400	1931.7	1932.2	1932.6	1933.0	1933.5	1933.9	1934.4	1934.8	1935.2	1935.7	1936.1	32.400
32.500	1936.1	1936.5	1937.0	1937.4	1937.8	1938.2	1938.7	1939.1	1939.5	1940.0	1940.4	32.500
32.600	1940.4	1940.8	1941.3	1941.7	1942.1	1942.6	1943.0	1943.4	1943.9	1944.3	1944.7	32.600
32.700	1944.7	1945.1	1945.6	1946.0	1946.4	1946.9	1947.3	1947.7	1948.2	1948.6	1949.0	32.700
32.800	1949.0	1949.5	1949.9	1950.4	1950.8	1951.2	1951.7	1952.1	1952.5	1953.0	1953.4	32.800
32.900	1953.4	1953.8	1954.3	1954.7	1955.1	1955.5	1956.0	1956.4	1956.8	1957.3	1957.7	32.900
33.000	1957.7	1958.1	1958.6	1959.0	1959.4	1959.8	1960.3	1960.7	1961.1	1961.6	1962.0	33.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
33.000	1957.7	1958.1	1958.6	1959.0	1959.4	1959.8	1960.3	1960.7	1961.1	1961.6	1962.0	33.000
33.100	1962.0	1962.4	1962.9	1963.3	1963.8	1964.2	1964.6	1965.0	1965.4	1965.8	1966.2	33.100
33.200	1966.2	1966.7	1967.2	1967.6	1968.0	1968.4	1968.9	1969.3	1969.7	1970.1	1970.6	33.200
33.300	1970.6	1971.0	1971.4	1971.9	1972.3	1972.7	1973.2	1973.6	1974.0	1974.4	1974.9	33.300
33.400	1974.9	1975.3	1975.7	1976.2	1976.6	1977.0	1977.5	1977.9	1978.4	1978.8	1979.2	33.400
33.500	1979.2	1979.7	1980.1	1980.5	1980.9	1981.3	1981.8	1982.2	1982.7	1983.1	1983.5	33.500
33.600	1983.5	1983.9	1984.4	1984.8	1985.2	1985.6	1986.0	1986.5	1986.9	1987.4	1987.8	33.600
33.700	1987.8	1988.2	1988.6	1989.0	1989.5	1989.9	1990.4	1990.8	1991.2	1991.6	1992.0	33.700
33.800	1992.0	1992.5	1992.9	1993.3	1993.8	1994.2	1994.6	1995.0	1995.5	1995.9	1996.4	33.800
33.900	1996.4	1996.8	1997.2	1997.7	1998.1	1998.5	1998.9	1999.3	1999.8	2000.2	2000.7	33.900
34.000	2000.7	2001.1	2001.5	2001.9	2002.4	2002.8	2003.2	2003.6	2004.0	2004.5	2004.9	34.000
34.100	2004.9	2005.3	2005.8	2006.2	2006.6	2007.0	2007.5	2007.9	2008.3	2008.7	2009.2	34.100
34.200	2009.2	2009.6	2010.0	2010.5	2010.9	2011.3	2011.7	2012.2	2012.6	2013.0	2013.4	34.200
34.300	2013.4	2013.9	2014.3	2014.7	2015.1	2015.6	2016.0	2016.4	2016.9	2017.3	2017.7	34.300
34.400	2017.7	2018.2	2018.6	2019.0	2019.4	2019.9	2020.3	2020.7	2021.1	2021.6	2022.0	34.400
34.500	2022.0	2022.4	2022.8	2023.3	2023.7	2024.1	2024.5	2025.0	2025.4	2025.8	2026.3	34.500
34.600	2026.3	2026.7	2027.1	2027.5	2027.9	2028.3	2028.8	2029.2	2029.6	2030.0	2030.5	34.600
34.700	2030.5	2030.9	2031.3	2031.8	2032.2	2032.6	2033.0	2033.5	2033.9	2034.3	2034.7	34.700
34.800	2034.7	2035.2	2035.6	2036.0	2036.4	2036.8	2037.3	2037.7	2038.1	2038.6	2039.0	34.800
34.900	2039.0	2039.4	2039.9	2040.3	2040.7	2041.1	2141.5	2042.0	2042.4	2042.8	2043.3	34.900
35.000	2043.3	2043.7	2044.1	2044.5	2045.0	2045.4	2045.8	2046.2	2046.6	2047.0	2047.5	35.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
35.000	2043.3	2043.7	2044.1	2044.5	2045.0	2045.4	2045.8	2046.2	2046.6	2047.0	2047.5	35.000
35.100	2047.5	2047.9	2048.3	2048.8	2049.2	2049.6	2050.0	2050.5	2050.9	2051.3	2051.7	35.100
35.200	2051.7	2052.1	2052.6	2053.0	2053.4	2053.8	2054.3	2054.7	2055.1	2055.5	2056.0	35.200
35.300	2056.0	2056.4	2056.8	2057.2	2057.6	2058.0	2058.5	2058.9	2059.4	2059.8	2060.2	35.300
35.400	2060.2	2060.6	2061.0	2061.5	2061.9	2062.3	2062.8	2063.2	2063.6	2064.0	2064.4	35.400
35.500	2064.4	2064.9	2065.3	2065.7	2066.1	2066.5	2067.0	2067.4	2067.8	2068.3	2068.7	35.500
35.600	2068.7	2069.1	2069.5	2069.9	2070.3	2070.8	2071.2	2071.7	2072.1	2072.5	2072.9	35.600
35.700	2072.9	2073.3	2073.8	2074.2	2074.6	2075.0	2075.5	2075.9	2076.3	2076.7	2077.1	35.700
35.800	2077.1	2077.5	2078.0	2078.4	2078.8	2079.3	2079.7	2080.1	2080.5	2080.9	2081.3	35.800
35.900	2081.3	2081.8	2082.2	2082.6	2083.0	2083.5	2083.9	2084.3	2084.8	2085.2	2085.6	35.900
36.000	2085.6	2086.0	2086.4	2086.9	2087.3	2087.7	2088.1	2088.5	2089.0	2089.4	2089.8	36.000
36.100	2089.8	2090.2	2090.6	2091.0	2091.5	2091.9	2092.3	2092.8	2093.2	2093.6	2094.0	36.100
36.200	2094.0	2094.4	2094.8	2095.3	2095.7	2096.1	2096.6	2097.0	2097.4	2097.8	2098.3	36.200
36.300	2098.3	2098.7	2099.1	2099.5	2099.9	2100.3	2100.8	2101.2	2101.6	2102.0	2102.5	36.300
36.400	2102.5	2102.9	2103.3	2103.7	2104.1	2104.5	2105.0	2105.4	2105.8	2106.2	2106.6	36.400
36.500	2106.6	2107.0	2107.5	2107.9	2108.3	2108.8	2109.2	2109.6	2110.0	2110.5	2110.9	36.500
36.600	2110.9	2111.3	2111.7	2112.1	2112.5	2113.0	2113.4	2113.8	2114.2	2114.7	2115.1	36.600
36.700	2115.1	2115.5	2115.9	2116.3	2116.8	2117.2	2117.6	2118.0	2118.4	2118.8	2119.2	36.700
36.800	2119.2	2119.7	2120.1	2120.5	2121.0	2121.4	2121.8	2122.2	2122.6	2123.0	2123.5	36.800
36.900	2123.5	2123.9	2124.3	2124.8	2125.2	2125.6	2126.0	2126.4	2126.8	2127.2	2127.7	36.900
37.000	2127.7	2128.1	2128.5	2128.9	2129.3	2129.8	2130.2	2130.6	2131.0	2131.4	2131.8	37.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
37.000	2127.7	2128.1	2128.5	2128.9	2129.3	2129.8	2130.2	2130.6	2131.0	2131.4	2131.8	37.000
37.100	2131.8	2132.3	2132.7	2133.1	2133.5	2134.0	2134.4	2134.8	2135.3	2135.7	2136.1	37.100
37.200	2136.1	2136.5	2136.9	2137.3	2137.7	2138.2	2138.6	2139.0	2139.4	2139.8	2140.3	37.200
37.300	2140.3	2140.7	2141.1	2141.5	2141.9	2142.3	2142.8	2143.2	2143.6	2144.0	2144.4	37.300
37.400	2144.4	2144.8	2145.3	2145.7	2146.1	2146.5	2147.0	2147.4	2147.8	2148.2	2148.6	37.400
37.500	2148.6	2149.0	2149.5	2149.9	2150.3	2150.7	2151.1	2151.5	2152.0	2152.4	2152.8	37.500
37.600	2152.8	2153.2	2153.6	2154.0	2154.5	2154.9	2155.3	2155.7	2156.1	2156.5	2157.0	37.600
37.700	2157.0	2157.4	2157.8	2158.2	2158.7	2159.1	2159.5	2160.0	2160.4	2160.8	2161.2	37.700
37.800	2161.2	2161.6	2162.0	2162.4	2162.8	2163.3	2163.7	2164.1	2164.5	2164.9	2165.3	37.800
37.900	2165.3	2165.8	2166.2	2166.6	2167.0	2167.4	2167.9	2168.3	2168.7	2169.1	2169.5	37.900
38.000	2169.5	2169.9	2170.3	2170.8	2171.2	2171.6	2172.0	2172.4	2172.9	2173.3	2173.7	38.000
38.100	2173.7	2174.1	2174.5	2175.0	2175.4	2175.8	2176.2	2176.6	2177.0	2177.5	2177.9	38.100
38.200	2177.9	2178.3	2178.7	2179.1	2179.5	2180.0	2180.4	2180.8	2181.2	2181.6	2182.0	38.200
38.300	2182.0	2182.5	2182.9	2183.3	2183.7	2184.1	2184.5	2185.0	2185.4	2185.8	2186.2	38.300
38.400	2186.2	2186.6	2187.0	2187.5	2187.9	2188.3	2188.7	2189.1	2189.5	2190.0	2190.4	38.400
38.500	2190.4	2190.8	2191.2	2191.6	2192.0	2192.5	2192.9	2193.3	2193.7	2194.1	2194.5	38.500
38.600	2194.5	2194.9	2195.3	2195.7	2196.2	2196.6	2197.0	2197.4	2197.8	2198.3	2198.7	38.600
38.700	2198.7	2199.1	2199.5	2199.9	2200.3	2200.8	2201.2	2201.6	2202.0	2202.4	2202.8	38.700
38.800	2202.8	2203.3	2203.7	2204.1	2204.5	2204.9	2205.3	2205.8	2206.2	2206.6	2207.0	38.800
38.900	2207.0	2207.4	2207.8	2208.3	2208.7	2209.1	2209.5	2209.9	2210.3	2210.8	2211.2	38.900
39.000	2211.2	2211.6	2212.0	2212.4	2212.8	2213.3	2213.7	2214.1	2214.5	2214.9	2215.3	39.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
39.000	2211.2	2211.6	2212.0	2212.4	2212.8	2213.3	2213.7	2214.1	2214.5	2214.9	2215.3	39.000
39.100	2215.3	2215.8	2216.2	2216.6	2217.0	2217.4	2217.8	2218.3	2218.7	2219.1	2219.5	39.100
39.200	2219.5	2219.9	2220.3	2220.8	2221.2	2221.6	2222.0	2222.4	2222.8	2223.3	2223.7	39.200
39.300	2223.7	2224.1	2224.5	2224.9	2225.3	2225.7	2226.1	2226.5	2227.0	2227.4	2227.8	39.300
39.400	2227.8	2228.2	2228.6	2229.0	2229.5	2229.9	2230.3	2230.7	2231.1	2231.5	2232.0	39.400
39.500	2232.0	2232.4	2232.8	2233.2	2233.6	2234.0	2234.4	2234.8	2235.3	2235.7	2236.1	39.500
39.600	2236.1	2236.5	2236.9	2237.3	2237.8	2238.2	2238.6	2239.0	2239.4	2239.8	2240.3	39.600
39.700	2240.3	2240.7	2241.1	2241.5	2241.9	2242.3	2242.8	2243.2	2243.6	2244.0	2244.4	39.700
39.800	2244.4	2244.8	2245.2	2245.6	2246.0	2246.5	2246.9	2247.3	2247.7	2248.1	2248.5	39.800
39.900	2248.5	2249.0	2249.4	2249.8	2250.2	2250.6	2251.0	2251.5	2251.9	2252.3	2252.7	39.900
40.000	2252.7	2253.1	2253.5	2254.0	2254.4	2254.8	2255.2	2255.6	2256.0	2256.4	2256.8	40.000
40.100	2256.8	2257.3	2257.7	2258.1	2258.5	2258.9	2259.3	2259.8	2260.2	2260.6	2261.0	40.100
40.200	2261.0	2261.4	2261.8	2262.3	2262.7	2263.1	2263.5	2263.9	2264.3	2264.8	2265.2	40.200
40.300	2265.2	2265.6	2266.0	2266.4	2266.8	2267.2	2267.6	2268.0	2268.5	2268.9	2269.3	40.300
40.400	2269.3	2269.7	2270.1	2270.5	2271.0	2271.4	2271.8	2272.2	2272.6	2273.0	2273.5	40.400
40.500	2273.5	2273.9	2274.3	2274.7	2275.1	2275.5	2275.9	2276.3	2276.8	2277.2	2277.6	40.500
40.600	2277.6	2278.0	2278.4	2278.8	2279.3	2279.7	2280.1	2280.5	2280.9	2281.3	2281.8	40.600
40.700	2281.8	2282.2	2282.6	2283.0	2283.4	2283.8	2284.2	2284.6	2285.0	2285.5	2285.9	40.700
40.800	2285.9	2286.3	2286.7	2287.1	2287.5	2288.0	2288.4	2288.8	2289.2	2289.6	2290.0	40.800
40.900	2290.0	2290.4	2290.8	2291.3	2291.7	2292.1	2292.5	2292.9	2293.3	2293.8	2294.2	40.900
41.000	2294.2	2294.6	2295.0	2295.4	2295.8	2296.2	2296.6	2297.0	2297.5	2297.9	2298.3	41.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
41.000	2294.2	2294.6	2295.0	2295.4	2295.8	2296.2	2296.6	2297.0	2297.5	2297.9	2298.3	41.000
41.100	2298.3	2298.7	2299.1	2299.5	2300.0	2300.4	2300.8	2301.2	2301.6	2302.0	2302.4	41.100
41.200	2302.4	2302.8	2303.3	2303.7	2304.1	2304.5	2304.9	2305.3	2305.7	2306.1	2306.5	41.200
41.300	2306.5	2307.0	2307.4	2307.8	2308.2	2308.6	2309.0	2309.5	2309.9	2310.3	2310.7	41.300
41.400	2310.7	2311.1	2311.5	2311.9	2312.3	2312.7	2313.2	2313.6	2314.0	2314.4	2314.8	41.400
41.500	2314.8	2315.2	2315.7	2316.1	2316.5	2316.9	2317.3	2317.7	2318.1	2318.5	2319.0	41.500
41.600	2319.0	2319.4	2319.8	2320.2	2320.6	2321.0	2321.4	2321.8	2322.3	2322.7	2323.1	41.600
41.700	2323.1	2323.5	2323.9	2324.3	2324.7	2325.1	2325.5	2326.0	2326.4	2326.8	2327.2	41.700
41.800	2327.2	2327.6	2328.0	2328.4	2328.8	2329.3	2329.7	2330.1	2330.5	2330.9	2331.3	41.800
41.900	2331.3	2331.8	2332.2	2332.6	2333.0	2333.4	2333.8	2334.2	2334.6	2335.0	2335.5	41.900
42.000	2335.5	2335.9	2336.3	2336.7	2337.1	2337.5	2337.9	2338.3	2338.8	2339.2	2339.6	42.000
42.100	2339.6	2340.0	2340.4	2340.8	2341.2	2341.6	2342.0	2342.5	2342.9	2343.3	2343.7	42.100
42.200	2343.7	2344.1	2344.5	2344.9	2345.3	2345.8	2346.2	2346.6	2347.0	2347.4	2347.8	42.200
42.300	2347.8	2348.3	2348.7	2349.1	2349.5	2349.9	2350.3	2350.7	2351.1	2351.5	2352.0	42.300
42.400	2352.0	2352.4	2352.8	2353.2	2353.6	2354.0	2354.4	2354.8	2355.3	2355.7	2356.1	42.400
42.500	2356.1	2356.5	2356.9	2357.3	2357.7	2358.1	2358.5	2359.0	2359.4	2359.8	2360.2	42.500
42.600	2360.2	2360.6	2361.0	2361.4	2361.8	2362.3	2362.7	2363.1	2363.5	2363.9	2364.3	42.600
42.700	2364.3	2364.8	2365.2	2365.6	2366.0	2366.4	2366.8	2367.2	2367.6	2368.0	2368.4	42.700
42.800	2368.4	2368.8	2369.3	2369.7	2370.1	2370.5	2370.9	2371.3	2371.7	2372.1	2372.5	42.800
42.900	2372.5	2373.0	2373.4	2373.8	2374.2	2374.6	2375.0	2375.4	2375.8	2376.3	2376.7	42.900
43.000	2376.7	2377.1	2377.5	2377.9	2378.3	2378.7	2379.1	2379.5	2380.0	2380.4	2380.8	43.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
43.000	2376.7	2377.1	2377.5	2377.9	2378.3	2378.7	2379.1	2379.5	2380.0	2380.4	2380.8	43.000
43.100	2380.8	2381.2	2381.6	2382.0	2382.4	2382.8	2383.3	2383.7	2384.1	2384.5	2384.9	43.100
43.200	2384.9	2385.3	2385.7	2386.1	2386.5	2387.0	2387.4	2387.8	2388.2	2388.6	2389.0	43.200
43.300	2389.0	2389.4	2389.8	2390.3	2390.7	2391.1	2391.5	2391.9	2392.3	2392.7	2393.1	43.300
43.400	2393.1	2393.5	2393.9	2394.3	2394.7	2395.1	2395.5	2396.0	2396.4	2396.8	2397.2	43.400
43.500	2397.2	2397.6	2398.0	2398.4	2398.8	2399.2	2399.6	2400.0	2400.5	2400.9	2401.3	43.500
43.600	2401.3	2401.7	2402.1	2402.5	2402.9	2403.3	2403.8	2404.2	2404.6	2405.0	2405.4	43.600
43.700	2405.4	2405.8	2406.2	2406.6	2407.0	2407.5	2407.9	2408.3	2408.7	2409.1	2409.5	43.700
43.800	2409.5	2409.9	2410.3	2410.7	2411.1	2411.5	2412.0	2412.4	2412.8	2413.2	2413.6	43.800
43.900	2413.6	2414.0	2414.4	2414.8	2415.3	2415.7	2416.1	2416.5	2416.9	2417.3	2417.7	43.900
44.000	2417.7	2418.1	2418.5	2418.9	2419.3	2419.7	2420.1	2420.5	2421.0	2421.4	2421.8	44.000
44.100	2421.8	2422.2	2422.6	2423.0	2423.4	2423.8	2424.2	2424.6	2425.0	2425.4	2425.8	44.100
44.200	2425.8	2426.2	2426.6	2427.0	2427.5	2427.9	2428.3	2428.7	2429.1	2429.5	2429.9	44.200
44.300	2429.9	2430.3	2430.7	2431.1	2431.5	2432.0	2432.4	2432.8	2433.2	2433.6	2434.0	44.300
44.400	2434.0	2434.4	2434.8	2435.2	2435.6	2436.0	2436.4	2436.8	2437.3	2437.7	2438.1	44.400
44.500	2438.1	2438.5	2438.9	2439.3	2439.7	2440.1	2440.5	2440.9	2441.3	2441.7	2442.1	44.500
44.600	2442.1	2442.5	2443.0	2443.4	2443.8	2444.2	2444.6	2445.0	2445.4	2445.8	2446.2	44.600
44.700	2446.2	2446.6	2447.0	2447.4	2447.8	2448.2	2448.6	2449.0	2449.5	2449.9	2450.3	44.700
44.800	2450.3	2450.7	2451.1	2451.5	2451.9	2452.3	2452.7	2453.1	2453.6	2454.0	2454.4	44.800
44.900	2454.4	2454.8	2455.2	2455.6	2456.0	2456.4	2456.8	2457.2	2457.6	2458.0	2458.4	44.900
45.000	2458.4	2458.8	2459.2	2459.6	2460.0	2460.5	2460.9	2461.3	2461.7	2462.1	2462.5	45.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
45.000	2458.4	2458.8	2459.2	2459.6	2460.0	2460.5	2460.9	2461.3	2461.7	2462.1	2462.5	45.000
45.100	2462.5	2462.9	2463.3	2463.7	2464.1	2464.5	2465.0	2465.4	2465.8	2466.2	2466.6	45.100
45.200	2466.6	2467.0	2467.4	2467.8	2468.2	2468.6	2469.0	2469.4	2469.8	2470.2	2470.6	45.200
45.300	2470.6	2471.0	2471.5	2471.9	2472.3	2472.7	2473.1	2473.5	2473.9	2474.3	2474.8	45.300
45.400	2474.8	2475.2	2475.6	2476.0	2476.4	2476.8	2477.2	2477.6	2478.0	2478.4	2478.8	45.400
45.500	2478.8	2479.2	2479.6	2480.0	2480.4	2480.8	2481.2	2481.6	2482.0	2482.5	2482.9	45.500
45.600	2482.9	2483.3	2483.7	2484.1	2484.5	2484.9	2485.3	2485.7	2486.1	2486.5	2486.9	45.600
45.700	2486.9	2487.3	2487.7	2488.2	2488.6	2489.0	2489.4	2489.8	2490.2	2490.6	2491.0	45.700
45.800	2491.0	2491.4	2491.8	2492.2	2492.6	2493.0	2493.4	2493.8	2494.2	2494.6	2495.0	45.800
45.900	2495.0	2495.4	2495.9	2496.3	2496.7	2497.1	2497.5	2497.9	2498.3	2498.7	2499.1	45.900
46.000	2499.1	2499.5	2499.9	2500.3	2500.7	2501.1	2501.5	2502.0	2502.4	2502.8	2503.2	46.000
46.100	2503.2	2503.6	2504.0	2504.4	2504.8	2505.2	2505.6	2506.0	2506.4	2506.8	2507.2	46.100
46.200	2507.2	2507.6	2508.0	2508.4	2508.8	2509.3	2509.7	2510.1	2510.5	2510.9	2511.3	46.200
46.300	2511.3	2511.7	2512.1	2512.5	2512.9	2513.3	2513.7	2514.1	2514.5	2514.9	2515.3	46.300
46.400	2515.3	2515.8	2516.2	2516.6	2517.0	2517.4	2517.8	2518.2	2518.6	2519.0	2519.4	46.400
46.500	2519.4	2519.8	2520.2	2520.6	2521.0	2521.4	2521.8	2522.2	2522.6	2523.0	2523.4	46.500
46.600	2523.4	2523.8	2524.2	2524.7	2525.1	2525.5	2525.9	2526.3	2526.7	2527.1	2527.5	46.600
46.700	2527.5	2528.0	2528.4	2528.8	2529.2	2529.6	2530.0	2530.4	2530.8	2531.2	2531.6	46.700
46.800	2531.6	2532.0	2532.4	2532.8	2533.2	2533.6	2534.0	2534.4	2534.8	2535.2	2535.6	46.800
46.900	2535.6	2536.0	2536.4	2536.8	2537.2	2537.6	2538.0	2538.5	2538.9	2539.3	2539.7	46.900
47.000	2539.7	2540.1	2540.5	2540.9	2541.3	2541.7	2542.1	2542.5	2542.9	2543.3	2543.7	47.000
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 5. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts
	Degrees F											
47.000	2539.7	2540.1	2540.5	2540.9	2541.3	2541.7	2542.1	2542.5	2542.9	2543.3	2543.7	47.000
47.100	2543.7	2544.1	2544.5	2544.9	2545.3	2545.7	2546.1	2546.5	2547.0	2547.4	2547.8	47.100
47.200	2547.8	2548.2	2548.6	2549.0	2549.4	2549.8	2550.2	2550.6	2551.0	------	------	47.200
Millivolts	.000	.010	.020	.030	.040	.050	.060	.070	.080	.090	.100	Millivolts

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
-70	-0.930	-0.938	-0.946	-0.954	-0.962	-0.970	-0.978	-0.986	-0.994	-1.002	-1.010	-70
-60	-0.847	-0.855	-0.864	-0.872	-0.880	-0.889	-0.897	-0.905	-0.913	-0.922	-0.930	-60
-50	-0.762	-0.770	-0.779	-0.787	-0.796	-0.805	-0.813	-0.822	-0.830	-0.839	-0.847	-50
-40	-0.674	-0.683	-0.691	-0.700	-0.709	-0.718	-0.727	-0.735	-0.744	-0.753	-0.762	-40
-30	-0.585	-0.594	-0.603	-0.612	-0.621	-0.629	-0.638	-0.647	-0.656	-0.665	-0.674	-30
-20	-0.495	-0.504	-0.513	-0.522	-0.531	-0.540	-0.549	-0.558	-0.567	-0.576	-0.585	-20
-10	-0.404	-0.413	-0.422	-0.431	-0.440	-0.449	-0.459	-0.468	-0.477	-0.486	-0.495	-10
- 0	-0.310	-0.320	-0.329	-0.338	-0.347	-0.356	-0.366	-0.376	-0.385	-0.395	-0.404	- 0
+ 0	-0.310	-0.300	-0.291	-0.282	-0.272	-0.262	-0.253	-0.244	-0.234	-0.224	-0.215	+ 0
10	-0.215	-0.205	-0.195	-0.185	-0.175	-0.166	-0.157	-0.148	-0.138	-0.128	-0.118	10
20	-0.118	-0.108	-0.098	-0.089	-0.079	-0.069	-0.060	-0.050	-0.040	-0.030	-0.020	20
30	-0.020	-0.010	0.000	+0.010	+0.020	+0.030	+0.040	+0.050	+0.059	+0.069	+0.079	30
40	0.079	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	40
50	0.179	0.190	0.200	0.210	0.220	0.230	0.240	0.250	0.261	0.271	0.281	50
60	0.281	0.292	0.302	0.312	0.322	0.332	0.343	0.353	0.364	0.374	0.384	60
70	0.384	0.395	0.405	0.416	0.426	0.437	0.447	0.458	0.468	0.479	0.489	70
80	0.489	0.500	0.511	0.521	0.532	0.542	0.553	0.564	0.574	0.585	0.595	80
90	0.595	0.606	0.617	0.627	0.638	0.649	0.659	0.670	0.681	0.692	0.702	90
100	0.702	0.713	0.724	0.735	0.745	0.756	0.767	0.778	0.789	0.799	0.810	100
°F	0	1	2	3	4	5	6	7	8	9	10	°F

*Based on the International Temperature Scale of 1948

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
100	0.702	0.713	0.724	0.735	0.745	0.756	0.767	0.778	0.789	0.799	0.810	100
110	0.810	0.821	0.833	0.844	0.855	0.866	0.876	0.887	0.898	0.909	0.920	110
120	0.920	0.931	0.942	0.953	0.964	0.975	0.986	0.997	1.008	1.020	1.031	120
130	1.031	1.042	1.053	1.064	1.075	1.086	1.097	1.108	1.119	1.130	1.141	130
140	1.141	1.152	1.163	1.175	1.187	1.198	1.209	1.220	1.231	1.243	1.254	140
150	1.254	1.265	1.276	1.287	1.299	1.311	1.322	1.333	1.345	1.356	1.367	150
160	1.367	1.378	1.390	1.401	1.412	1.424	1.436	1.447	1.459	1.470	1.481	160
170	1.481	1.492	1.504	1.515	1.527	1.539	1.551	1.562	1.574	1.585	1.596	170
180	1.596	1.607	1.619	1.631	1.643	1.655	1.666	1.678	1.690	1.701	1.712	180
190	1.712	1.724	1.736	1.748	1.760	1.771	1.783	1.794	1.806	1.818	1.830	190
200	1.830	1.842	1.854	1.865	1.877	1.889	1.900	1.912	1.924	1.936	1.948	200
210	1.948	1.960	1.971	1.983	1.995	2.007	2.019	2.031	2.043	2.055	2.066	210
220	2.066	2.078	2.090	2.102	2.114	2.126	2.138	2.150	2.162	2.174	2.186	220
230	2.186	2.198	2.210	2.222	2.234	2.246	2.258	2.271	2.283	2.295	2.307	230
240	2.307	2.319	2.332	2.344	2.356	2.368	2.381	2.393	2.405	2.417	2.429	240
250	2.429	2.442	2.454	2.466	2.478	2.490	2.502	2.515	2.528	2.540	2.552	250
260	2.552	2.564	2.577	2.589	2.602	2.614	2.626	2.639	2.651	2.663	2.676	260
270	2.676	2.688	2.700	2.713	2.725	2.737	2.749	2.762	2.775	2.788	2.800	270
280	2.800	2.812	2.825	2.838	2.850	2.863	2.875	2.888	2.901	2.913	2.925	280
290	2.925	2.938	2.950	2.963	2.976	2.988	3.001	3.013	3.026	3.039	3.051	290
300	3.051	3.064	3.077	3.090	3.102	3.115	3.128	3.141	3.153	3.166	3.178	300
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
300	3.051	3.064	3.077	3.090	3.102	3.115	3.128	3.141	3.153	3.166	3.178	300
310	3.178	3.191	3.204	3.217	3.229	3.242	3.255	3.268	3.281	3.293	3.306	310
320	3.306	3.318	3.331	3.344	3.357	3.370	3.383	3.395	3.408	3.421	3.434	320
330	3.434	3.447	3.460	3.472	3.485	3.498	3.511	3.524	3.537	3.550	3.562	330
340	3.562	3.575	3.588	3.601	3.614	3.627	3.640	3.653	3.666	3.678	3.691	340
350	3.691	3.704	3.717	3.730	3.743	3.756	3.769	3.782	3.795	3.808	3.821	350
360	3.821	3.834	3.847	3.860	3.873	3.886	3.899	3.912	3.925	3.938	3.951	360
370	3.951	3.964	3.977	3.990	4.003	4.016	4.029	4.042	4.055	4.068	4.082	370
380	4.082	4.095	4.108	4.122	4.135	4.148	4.161	4.174	4.187	4.200	4.213	380
390	4.213	4.227	4.240	4.253	4.266	4.280	4.293	4.307	4.320	4.333	4.346	390
400	4.346	4.359	4.373	4.386	4.399	4.412	4.426	4.439	4.452	4.465	4.479	400
410	4.479	4.493	4.506	4.519	4.533	4.546	4.559	4.573	4.586	4.599	4.613	410
420	4.613	4.626	4.639	4.653	4.666	4.680	4.693	4.706	4.720	4.733	4.747	420
430	4.747	4.760	4.774	4.788	4.801	4.815	4.828	4.842	4.855	4.869	4.882	430
440	4.882	4.896	4.909	4.923	4.936	4.950	4.963	4.977	4.990	5.004	5.017	440
450	5.017	5.031	5.045	5.058	5.072	5.085	5.099	5.113	5.126	5.140	5.153	450
460	5.153	5.167	5.181	5.194	5.208	5.222	5.235	5.249	5.263	5.277	5.290	460
470	5.290	5.304	5.318	5.331	5.345	5.359	5.373	5.386	5.400	5.414	5.428	470
480	5.428	5.442	5.455	5.469	5.483	5.497	5.511	5.524	5.538	5.552	5.566	480
490	5.566	5.580	5.594	5.608	5.622	5.635	5.649	5.663	5.677	5.691	5.705	490
500	5.705	5.719	5.733	5.747	5.760	5.774	5.788	5.802	5.816	5.830	5.844	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
500	5.705	5.719	5.733	5.747	5.760	5.774	5.788	5.802	5.816	5.830	5.844	500
510	5.844	5.858	5.872	5.886	5.900	5.914	5.928	5.942	5.956	5.970	5.985	510
520	5.985	5.999	6.013	6.027	6.041	6.055	6.069	6.083	6.097	6.111	6.126	520
530	6.126	6.140	6.154	6.168	6.182	6.196	6.210	6.225	6.239	6.253	6.267	530
540	6.267	6.281	6.296	6.310	6.324	6.338	6.353	6.367	6.381	6.395	6.410	540
550	6.410	6.424	6.438	6.452	6.467	6.481	6.495	6.510	6.524	5.538	6.553	550
560	6.553	6.567	6.581	6.595	6.609	6.623	6.638	6.652	6.667	6.681	6.695	560
570	6.695	6.710	6.724	6.739	6.753	6.767	6.782	6.796	6.810	6.825	6.840	570
580	6.840	6.854	6.869	6.883	6.898	6.912	6.927	6.941	6.956	6.970	6.985	580
590	6.985	6.999	7.013	7.028	7.042	7.057	7.071	7.086	7.100	7.115	7.130	590
600	7.130	7.144	7.159	7.173	7.188	7.203	7.217	7.232	7.247	7.261	7.276	600
610	7.276	7.291	7.305	7.320	7.335	7.349	7.364	7.378	7.393	7.407	7.422	610
620	7.422	7.437	7.452	7.466	7.481	7.496	7.511	7.525	7.540	7.555	7.570	620
630	7.570	7.585	7.600	7.614	7.629	7.644	7.659	7.674	7.689	7.703	7.718	630
640	7.718	7.732	7.747	7.762	7.777	7.792	7.807	7.822	7.837	7.852	7.867	640
650	7.867	7.881	7.896	7.911	7.926	7.941	7.956	7.970	7.985	8.000	8.015	650
660	8.015	8.030	8.045	8.060	8.075	8.090	8.105	8.121	8.136	8.151	8.166	660
670	8.166	8.181	8.196	8.211	8.226	8.241	8.256	8.271	8.286	8.301	8.316	670
680	8.316	8.331	8.346	8.361	8.377	8.392	8.407	8.422	8.437	8.452	8.467	680
690	8.467	8.482	8.497	8.512	8.528	8.543	8.558	8.573	8.589	8.604	8.619	690
700	8.619	8.634	8.650	8.665	8.680	8.695	8.710	8.725	8.741	8.756	8.771	700
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
700	8.619	8.634	8.650	8.665	8.680	8.695	8.710	8.725	8.741	8.756	8.771	700
710	8.771	8.787	8.802	8.817	8.833	8.848	8.864	8.879	8.894	8.909	8.924	710
720	8.924	8.939	8.955	8.970	8.986	9.001	9.017	9.032	9.048	9.063	9.079	720
730	9.079	9.094	9.109	9.124	9.140	9.155	9.171	9.186	9.202	9.217	9.233	730
740	9.233	9.248	9.264	9.279	9.294	9.309	9.325	9.340	9.356	9.372	9.387	740
750	9.387	9.403	9.419	9.434	9.450	9.466	9.481	9.496	9.512	9.527	9.543	750
760	9.543	9.559	9.574	9.590	9.606	9.621	9.637	9.653	9.668	9.684	9.699	760
770	9.699	9.715	9.730	9.746	9.762	9.778	9.794	9.809	9.825	9.841	9.857	770
780	9.857	9.872	9.887	9.903	9.919	9.935	9.951	9.967	9.982	9.998	10.014	780
790	10.014	10.030	10.046	10.061	10.077	10.092	10.108	10.124	10.140	10.156	10.172	790
800	10.172	10.188	10.204	10.220	10.236	10.252	10.268	10.283	10.299	10.315	10.331	800
810	10.331	10.347	10.363	10.379	10.395	10.410	10.426	10.442	10.458	10.474	10.490	810
820	10.490	10.506	10.522	10.538	10.554	10.570	10.586	10.602	10.618	10.634	10.650	820
830	10.650	10.666	10.682	10.698	10.714	10.730	10.746	10.762	10.778	10.795	10.811	830
840	10.811	10.827	10.843	10.859	10.875	10.891	10.907	10.923	10.939	10.955	10.971	840
850	10.971	10.988	11.004	11.020	11.036	11.053	11.069	11.085	11.101	11.117	11.133	850
860	11.133	11.150	11.166	11.182	11.199	11.215	11.231	11.247	11.263	11.280	11.296	860
870	11.296	11.312	11.329	11.345	11.361	11.377	11.393	11.410	11.426	11.443	11.459	870
880	11.459	11.475	11.491	11.508	11.524	11.541	11.557	11.574	11.590	11.606	11.622	880
890	11.622	11.639	11.655	11.672	11.688	11.705	11.722	11.738	11.754	11.770	11.787	890
900	11.787	11.803	11.820	11.837	11.853	11.869	11.886	11.902	11.919	11.935	11.952	900
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
900	11.787	11.803	11.820	11.837	11.853	11.869	11.886	11.902	11.919	11.935	11.952	900
910	11.952	11.969	11.985	12.001	12.018	12.034	12.051	12.068	12.085	12.101	12.118	910
920	12.118	12.134	12.150	12.167	12.184	12.201	12.217	12.234	12.251	12.268	12.285	920
930	12.285	12.301	12.317	12.334	12.351	12.368	12.384	12.401	12.418	12.435	12.451	930
940	12.451	12.468	12.485	12.501	12.518	12.535	12.552	12.569	12.586	12.602	12.619	940
950	12.619	12.636	12.653	12.669	12.686	12.703	12.720	12.737	12.754	12.770	12.787	950
960	12.787	12.804	12.821	12.838	12.855	12.872	12.889	12.906	12.923	12.940	12.957	960
970	12.957	12.974	12.991	13.008	13.025	13.042	13.059	13.076	13.093	13.110	13.127	970
980	13.127	13.144	13.162	13.179	13.196	13.213	13.230	13.247	13.264	13.281	13.298	980
990	13.298	13.315	13.332	13.349	13.367	13.384	13.401	13.418	13.435	13.453	13.470	990
1000	13.470	13.487	13.504	13.522	13.539	13.556	13.574	13.591	13.608	13.625	13.643	1000
1010	13.643	13.660	13.677	13.695	13.712	13.729	13.747	13.764	13.781	13.799	13.816	1010
1020	13.816	13.833	13.851	13.868	13.886	13.903	13.921	13.938	13.956	13.973	13.991	1020
1030	13.991	14.008	14.025	14.043	14.060	14.078	14.095	14.113	14.130	14.148	14.165	1030
1040	14.165	14.183	14.200	14.218	14.235	14.253	14.270	14.288	14.305	14.323	14.341	1040
1050	14.341	14.358	14.376	14.393	14.411	14.429	14.446	14.464	14.481	14.499	14.517	1050
1060	14.517	14.534	14.552	14.570	14.587	14.605	14.623	14.640	14.658	14.676	14.694	1060
1070	14.694	14.711	14.729	14.747	14.764	14.782	14.800	14.818	14.835	14.853	14.871	1070
1080	14.871	14.889	14.906	14.924	14.942	14.960	14.978	14.996	15.013	15.031	15.049	1080
1090	15.049	15.067	15.085	15.103	15.120	15.138	15.156	15.174	15.192	15.210	15.228	1090
1100	15.228	15.246	15.264	15.282	15.300	15.317	15.335	15.353	15.371	15.389	15.407	1100
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
1100	15.228	15.246	15.264	15.282	15.300	15.317	15.335	15.353	15.371	15.389	15.407	1100
1110	15.407	15.425	15.443	15.461	15.479	15.497	15.515	15.533	15.551	15.569	15.587	1110
1120	15.587	15.605	15.623	15.641	15.660	15.678	15.696	15.714	15.732	15.750	15.768	1120
1130	15.768	15.786	15.804	15.822	15.841	15.859	15.877	15.895	15.913	15.931	15.949	1130
1140	15.949	15.968	15.986	16.004	16.022	16.040	16.059	16.077	16.095	16.114	16.133	1140
1150	16.133	16.151	16.169	16.187	16.206	16.224	16.242	16.260	16.279	16.297	16.315	1150
1160	16.315	16.334	16.352	16.370	16.389	16.407	16.425	16.444	16.462	16.480	16.499	1160
1170	16.499	16.517	16.535	16.554	16.572	16.591	16.609	16.627	16.646	16.664	16.683	1170
1180	16.683	16.701	16.720	16.738	16.756	16.775	16.793	16.812	16.830	16.849	16.867	1180
1190	16.867	16.886	16.904	16.923	16.942	16.961	16.980	16.998	17.017	17.035	17.054	1190
1200	17.054	17.072	17.091	17.109	17.128	17.147	17.165	17.184	17.203	17.221	17.240	1200
1210	17.240	17.258	17.277	17.296	17.314	17.333	17.352	17.370	17.389	17.408	17.427	1210
1220	17.427	17.445	17.464	17.483	17.501	17.520	17.539	17.558	17.577	17.596	17.615	1220
1230	17.615	17.634	17.652	17.671	17.690	17.709	17.728	17.746	17.765	17.784	17.803	1230
1240	17.803	17.822	17.841	17.859	17.878	17.897	17.916	17.935	17.954	17.973	17.992	1240
1250	17.992	18.011	18.029	18.048	18.067	18.086	18.106	18.125	18.144	18.163	18.182	1250
1260	18.182	18.201	18.220	18.239	18.258	18.277	18.296	18.315	18.334	18.353	18.372	1260
1270	18.372	18.391	18.410	18.429	18.448	18.467	18.486	18.505	18.525	18.544	18.563	1270
1280	18.563	18.582	18.601	18.621	18.640	18.659	18.678	18.698	18.717	18.736	18.755	1280
1290	18.755	18.774	18.793	18.813	18.832	18.851	18.870	18.889	18.909	18.928	18.947	1290
1300	18.947	18.966	18.986	19.005	19.024	19.043	19.063	19.083	19.102	19.122	19.141	1300
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
1300	18.947	18.966	18.986	19.005	19.024	19.043	19.063	19.083	19.102	19.122	19.141	1300
1310	19.141	19.160	19.179	19.199	19.218	19.237	19.257	19.276	19.295	19.315	19.334	1310
1320	19.334	19.354	19.373	19.392	19.412	19.431	19.451	19.471	19.490	19.510	19.529	1320
1330	19.529	19.548	19.567	19.587	19.607	19.626	19.646	19.665	19.685	19.704	19.724	1330
1340	19.724	19.743	19.763	19.782	19.802	19.821	19.841	19.861	19.881	19.901	19.920	1340
1350	19.920	19.940	19.959	19.979	19.999	20.018	20.038	20.057	20.077	20.097	20.116	1350
1360	20.116	20.136	20.156	20.175	20.195	20.215	20.235	20.255	20.275	20.294	20.313	1360
1370	20.313	20.333	20.353	20.373	20.393	20.413	20.432	20.452	20.472	20.492	20.511	1370
1380	20.511	20.531	20.551	20.571	20.591	20.611	20.631	20.651	20.671	20.690	20.710	1380
1390	20.710	20.730	20.750	20.770	20.790	20.810	20.830	20.850	20.870	20.890	20.910	1390
1400	20.910	20.930	20.950	20.970	20.990	21.010	21.030	21.049	21.069	21.089	21.109	1400
1410	21.109	21.129	21.149	21.169	21.189	21.209	21.229	21.249	21.269	21.290	21.310	1410
1420	21.310	21.330	21.350	21.370	21.390	21.410	21.431	21.451	21.471	21.491	21.511	1420
1430	21.511	21.531	21.551	21.571	21.592	21.613	21.633	21.653	21.673	21.693	21.713	1430
1440	21.713	21.733	21.754	21.774	21.794	21.814	21.834	21.855	21.875	21.895	21.915	1440
1450	21.915	21.935	21.956	21.976	21.996	22.016	22.037	22.058	22.078	22.099	22.119	1450
1460	22.119	22.139	22.160	22.180	22.200	22.220	22.241	22.261	22.282	22.303	22.323	1460
1470	22.323	22.344	22.364	22.384	22.405	22.425	22.445	22.466	22.486	22.507	22.527	1470
1480	22.527	22.548	22.569	22.589	22.610	22.630	22.650	22.671	22.692	22.712	22.733	1480
1490	22.733	22.753	22.774	22.794	22.815	22.835	22.856	22.877	22.898	22.918	22.939	1490
1500	22.939	22.960	22.980	23.001	23.021	23.042	23.062	23.083	23.104	23.125	23.146	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
1500	22.939	22.960	22.980	23.001	23.021	23.042	23.062	23.083	23.104	23.125	23.146	1500
1510	23.146	23.167	23.187	23.208	23.228	23.249	23.270	23.290	23.311	23.332	23.352	1510
1520	23.352	23.373	23.394	23.415	23.436	23.457	23.478	23.498	23.519	23.540	23.561	1520
1530	23.561	23.581	23.602	23.623	23.644	23.665	23.685	23.706	23.727	23.748	23.769	1530
1540	23.769	23.790	23.811	23.832	23.853	23.874	23.895	23.915	23.936	23.957	23.978	1540
1550	23.978	23.999	24.020	24.041	24.062	24.083	24.104	24.125	24.146	24.167	24.188	1550
1560	24.188	24.209	24.230	24.251	24.272	24.293	24.314	24.335	24.356	24.377	24.398	1560
1570	24.398	24.419	24.440	24.461	24.482	24.503	24.525	24.546	24.567	24.588	24.609	1570
1580	24.609	24.630	24.652	24.673	24.694	24.715	24.736	24.757	24.779	24.800	24.821	1580
1590	24.821	24.843	24.864	24.885	24.906	24.927	24.948	24.970	24.991	25.012	25.033	1590
1600	25.033	25.054	25.076	25.097	25.118	25.139	25.160	25.182	25.203	25.224	25.245	1600
1610	25.245	25.267	25.289	25.310	25.332	25.353	25.374	25.396	25.417	25.438	25.459	1610
1620	25.459	25.481	25.502	25.523	25.545	25.566	25.588	25.609	25.630	25.652	25.673	1620
1630	25.673	25.695	25.717	25.738	25.760	25.781	25.802	25.824	25.845	25.867	25.888	1630
1640	25.888	25.910	25.931	25.953	25.974	25.996	26.017	26.039	26.060	26.082	26.103	1640
1650	26.103	26.125	26.146	26.168	26.190	26.212	26.233	26.255	26.276	26.298	26.320	1650
1660	26.320	26.341	26.363	26.384	26.406	26.428	26.449	26.471	26.492	26.514	26.536	1660
1670	26.536	26.557	26.579	26.601	26.623	26.645	26.667	26.688	26.710	26.732	26.753	1670
1680	26.753	26.775	26.797	26.819	26.840	26.862	26.884	26.905	26.927	26.949	26.971	1680
1690	26.971	26.992	27.014	27.036	27.058	27.080	27.102	27.124	27.146	27.168	27.190	1690
1700	27.190	27.211	27.233	27.255	27.277	27.299	27.321	27.343	27.364	27.386	27.408	1700
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
1700	27.190	27.211	27.233	27.255	27.277	27.299	27.321	27.343	27.364	27.386	27.408	1700
1710	27.408	27.430	27.452	27.474	27.496	27.518	27.540	27.562	27.583	27.605	27.627	1710
1720	27.627	27.649	27.671	27.693	27.715	27.737	27.759	27.781	27.803	27.825	27.847	1720
1730	27.847	27.869	27.891	27.913	27.935	27.957	27.979	28.002	28.024	28.046	28.068	1730
1740	28.068	28.090	28.112	28.135	28.157	28.179	28.201	28.223	28.245	28.267	28.289	1740
1750	28.289	28.311	28.333	28.356	28.378	28.400	28.422	28.444	28.466	28.489	28.511	1750
1760	28.511	28.533	28.555	28.577	28.600	28.622	28.644	28.666	28.688	28.711	28.733	1760
1770	28.733	28.755	28.777	28.800	28.822	28.844	28.866	28.889	28.911	28.933	28.956	1770
1780	28.956	28.978	29.000	29.022	29.045	29.067	29.089	29.112	29.134	29.156	29.179	1780
1790	29.179	29.201	29.224	29.246	29.268	29.291	29.313	29.335	29.358	29.380	29.403	1790
1800	29.403	29.425	29.447	29.470	29.492	29.515	29.537	29.560	29.582	29.604	29.627	1800
1810	29.627	29.650	29.672	29.694	29.717	29.739	29.762	29.784	29.807	29.829	29.852	1810
1820	29.852	29.874	29.897	29.919	29.942	29.965	29.987	30.010	30.032	30.055	30.077	1820
1830	30.077	30.100	30.123	30.145	30.168	30.190	30.213	30.236	30.258	30.281	30.303	1830
1840	30.303	30.326	30.349	30.371	30.394	30.417	30.439	30.462	30.485	30.507	30.530	1840
1850	30.530	30.553	30.575	30.598	30.621	30.643	30.665	30.688	30.711	30.733	30.756	1850
1860	30.756	30.779	30.802	30.824	30.847	30.870	30.893	30.915	30.938	30.961	30.984	1860
1870	30.984	31.007	31.029	31.052	31.075	31.098	31.121	31.143	31.166	31.189	31.212	1870
1880	31.212	31.235	31.258	31.281	31.303	31.326	31.349	31.372	31.395	31.418	31.441	1880
1890	31.441	31.464	31.486	31.509	31.532	31.555	31.578	31.601	31.624	31.647	31.670	1890
1900	31.670	31.693	31.716	31.739	31.762	31.785	31.808	31.831	31.854	31.877	31.900	1900
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
1900	31.670	31.693	31.716	31.739	31.762	31.785	31.808	31.831	31.854	31.877	31.900	1900
1910	31.900	31.923	31.945	31.968	31.991	32.014	32.037	32.060	32.083	32.106	32.129	1910
1920	32.129	32.152	32.175	32.198	32.221	32.244	32.267	32.290	32.313	32.336	32.360	1920
1930	32.360	32.383	32.406	32.429	32.452	32.475	32.498	32.521	32.545	32.568	32.591	1930
1940	32.591	32.614	32.637	32.660	32.683	32.707	32.730	32.753	32.776	32.799	32.822	1940
1950	32.822	32.845	32.868	32.891	32.914	32.938	32.961	32.984	33.007	33.030	33.054	1950
1960	32.054	33.077	33.100	33.123	33.147	33.170	33.193	33.207	33.240	33.264	33.287	1960
1970	33.287	33.310	33.333	33.356	33.380	33.403	33.426	33.449	33.472	33.495	33.518	1970
1980	33.518	33.542	33.565	33.588	33.612	33.635	33.659	33.682	33.705	33.729	33.752	1980
1990	33.752	33.775	33.799	33.822	33.846	33.869	33.892	33.915	33.938	33.962	33.985	1990
2000	33.985	34.008	34.032	34.055	34.079	34.102	34.126	34.149	34.173	34.196	34.219	2000
2010	34.219	34.243	34.266	34.290	34.313	34.337	34.360	34.383	34.406	34.430	34.453	2010
2020	34.453	34.477	34.500	34.524	34.547	34.571	34.594	34.618	34.642	34.665	34.689	2020
2030	34.689	34.712	34.736	34.759	34.783	34.806	34.830	34.854	34.877	34.900	34.923	2030
2040	34.923	34.947	34.971	34.994	35.018	35.041	35.065	35.089	35.112	35.136	35.159	2040
2050	35.159	35.183	35.207	35.230	35.254	35.278	35.301	35.325	35.349	35.372	35.395	2050
2060	35.395	35.419	35.442	35.466	35.490	35.513	35.537	35.561	35.584	35.608	35.632	2060
2070	35.632	35.655	35.678	35.702	35.726	35.749	35.773	35.797	35.821	35.844	35.868	2070
2080	35.868	35.892	35.916	35.939	35.962	35.986	36.010	36.033	36.057	36.081	36.105	2080
2090	36.105	36.129	36.152	36.176	36.200	36.224	36.247	36.270	36.294	36.318	36.342	2090
2100	36.342	36.366	36.389	36.413	36.437	36.461	36.485	36.509	36.532	36.555	36.579	2100
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
2100	36.342	36.366	36.389	36.413	36.437	36.461	36.485	36.509	36.532	36.555	36.579	2100
2110	36.579	36.603	36.627	36.651	36.675	36.698	36.722	36.746	36.770	36.794	36.818	2110
2120	36.818	36.841	36.865	36.889	36.912	36.936	36.960	36.984	37.008	37.032	37.056	2120
2130	37.056	37.080	37.104	37.128	37.151	37.174	37.198	37.222	37.246	37.270	37.294	2130
2140	37.294	37.318	37.342	37.366	37.390	37.414	37.438	37.461	37.485	37.509	37.533	2140
2150	37.533	37.557	37.581	37.605	37.629	37.653	37.677	37.701	37.725	37.748	37.772	2150
2160	37.772	37.796	37.820	37.844	37.868	37.892	37.916	37.940	37.964	37.988	38.012	2160
2170	38.012	38.036	38.060	38.083	38.107	38.131	38.155	38.179	38.203	38.227	38.251	2170
2180	38.251	38.275	38.299	38.323	38.347	38.371	38.395	38.419	38.443	38.467	38.491	2180
2190	38.491	38.515	38.539	38.563	38.588	38.612	38.636	38.660	38.684	38.708	38.732	2190
2200	38.732	38.756	38.780	38.804	38.828	38.852	38.876	38.900	38.924	38.948	38.972	2200
2210	38.972	38.996	39.020	39.044	39.068	39.092	39.116	39.140	39.164	39.188	39.212	2210
2220	39.212	39.236	39.260	39.284	39.308	39.333	39.357	39.381	39.405	39.429	39.453	2220
2230	39.453	39.477	39.501	39.525	39.549	39.574	39.598	39.622	39.646	39.670	39.694	2230
2240	39.694	39.718	39.742	39.766	39.790	39.814	39.839	39.863	39.887	39.911	39.935	2240
2250	39.935	39.959	39.983	40.007	40.031	40.056	40.080	40.104	40.128	40.152	40.176	2250
2260	40.176	40.200	40.224	40.248	40.272	40.296	40.320	40.344	40.369	40.393	40.417	2260
2270	40.417	40.441	40.465	40.489	40.513	40.537	40.562	40.586	40.610	40.634	40.658	2270
2280	40.658	40.682	40.706	40.731	40.755	40.779	40.803	40.827	40.851	40.875	40.899	2280
2290	40.899	40.924	40.948	40.972	40.996	41.021	41.045	41.069	41.093	41.117	41.141	2290
2300	41.141	41.166	41.190	41.214	41.238	41.263	41.287	41.311	41.335	41.359	41.383	2300
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
2300	41.141	41.166	41.190	41.214	41.238	41.263	41.287	41.311	41.335	41.359	41.383	2300
2310	41.383	41.407	41.432	41.456	41.480	41.504	41.528	41.552	41.577	41.601	41.625	2310
2320	41.625	41.649	41.674	41.698	41.722	41.747	41.771	41.795	41.820	41.844	41.868	2320
2330	41.868	41.892	41.916	41.940	41.964	41.989	42.013	42.037	42.062	42.086	42.110	2330
2340	42.110	42.135	42.159	42.183	42.208	42.232	42.256	42.280	42.304	42.328	42.353	2340
2350	42.353	42.377	42.401	42.426	42.450	42.474	42.498	42.523	42.547	42.571	42.596	2350
2360	42.596	42.620	42.644	42.668	42.692	42.716	42.741	42.765	42.789	42.814	42.838	2360
2370	42.838	42.862	42.887	42.911	42.935	42.960	42.984	43.008	43.033	43.057	43.081	2370
2380	43.081	43.106	43.130	43.154	43.178	43.203	43.227	43.251	43.276	43.300	43.324	2380
2390	43.324	43.348	43.373	43.397	43.422	43.447	43.471	43.496	43.520	43.544	43.569	2390
2400	43.569	43.593	43.617	43.642	43.666	43.690	43.714	43.739	43.763	43.787	43.812	2400
2410	43.812	43.837	43.861	43.886	43.910	43.934	43.958	43.983	44.007	44.032	44.057	2410
2420	44.057	44.081	44.106	44.131	44.155	44.179	44.204	44.229	44.253	44.277	44.302	2420
2430	44.302	44.327	44.351	44.376	44.400	44.425	44.449	44.474	44.498	44.523	44.548	2430
2440	44.548	44.572	44.597	44.621	44.646	44.671	44.695	44.719	44.744	44.769	44.793	2440
2450	44.793	44.818	44.843	44.867	44.891	44.916	44.940	44.965	44.989	45.014	45.039	2450
2460	45.039	45.063	45.087	45.112	45.137	45.161	45.186	45.211	45.235	45.259	45.284	2460
2470	45.284	45.309	45.333	45.358	45.382	45.406	45.431	45.456	45.480	45.505	45.530	2470
2480	45.530	45.555	45.579	45.603	45.628	45.652	45.677	45.702	45.726	45.751	45.776	2480
2490	45.776	45.801	45.825	45.850	45.874	45.899	45.924	45.948	45.973	45.997	46.022	2490
2500	46.022	46.047	46.071	46.096	46.120	46.145	46.170	46.195	46.219	46.244	46.268	2500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 6. PALLADIUM VERSUS PLATINUM-15% IRIDIUM THERMOCOUPLES

Electromotive Force in Absolute Millivolts. Temperature in Degrees F*. Reference Junction at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Millivolts											
2500	46.022	46.047	46.071	46.096	46.120	46.145	46.170	46.195	46.219	46.244	46.268	2500
2510	46.268	46.293	46.317	46.342	46.367	46.392	46.416	46.441	46.465	46.490	46.515	2510
2520	46.515	46.540	46.564	46.589	46.614	46.638	46.663	46.687	46.711	46.736	46.761	2520
2530	46.761	46.786	46.811	46.836	46.860	46.885	46.909	46.934	46.959	46.983	47.008	2530
2540	47.008	47.032	47.057	47.082	47.107	47.132	47.157	47.181	47.206	47.231	47.255	2540
°F	0	1	2	3	4	5	6	7	8	9	10	°F

Aeronautical Systems Division, Dir/Aeromechanics, Propulsion Lab, Wright-Patterson AFB, Ohio. Rpt. No. ASD-TDR-62-525. REFERENCE TABLES FOR THE PALLADIUM VS PLATINUM-15% IRIDIUM THERMOCOUPLE. Final report, Dec 62, 79p. incl tables.

Unclassified Report

The purpose of the development of the palladium vs platinum-15% iridium (PPI) thermocouple was for measurement of temperatures up to 2300°F, and to obtain a high sensitivity in this range.

Comprehensive tables have been prepared giving the thermal emf of this thermocouple in the range from -80° to 2550°F. These tables are given in both degrees Celsius and Fahrenheit at intervals of one degree as the argument. Similar tables are

(over)

presented using emf at intervals of 10 microvolts as the argument.

The method used in calibrating the thermocouples in the range 32° to 2550°F is described briefly.

UNCLASSIFIED

1. Thermocouples
2. Measurement

I. Project No. 2(1-3066) Task No. 306602
II. Contract No. AF33(616) 61-01
III. National Bureau of Standards, Washington, D. C.
IV. Paul D. Freeze
Frank R. Caldwell
Edwin R. Davis
V. Not aval fr OTS
VI. In ASTIA collection

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