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AEDC-TDR-64-55



**EQUATIONS AND TABLES FOR THERMOCOUPLES  
32°F REFERENCE JUNCTION**

By

**W. E. Spengler and D. K. Graham  
Propulsion Wind Tunnel Facility  
ARO, Inc.**

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**ARNOLD ENGINEERING DEVELOPMENT CENTER  
AIR FORCE SYSTEMS COMMAND  
UNITED STATES AIR FORCE**

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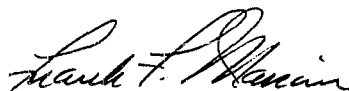
ARO Project No. 932002

ABSTRACT

National Bureau of Standards tables of electromotive-force versus temperature for thermocouples have been fitted to third degree polynomials in parts. The resulting coefficients are presented for six types of thermocouples. Tables derived from the fitted equations are also presented.

PUBLICATION REVIEW

This report has been reviewed and publication is approved.



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## NOMENCLATURE

T	Temperature in degrees Fahrenheit
mv	Electromotive-force in absolute millivolts for a 32°F reference junction

## 1.0 INTRODUCTION

The continued requirement of reducing thermocouple millivolt signals to temperature in the automatic data reduction process has created the need of equations to express available table data. The six most used types of thermocouples in the Propulsion Wind Tunnel (PWT) have been fitted to third degree polynomials in parts. The resulting coefficients are presented in Table 1.

Tables have been calculated to provide a fast check of problems which require the use of the fitted equations. Electromotive force in millivolts versus temperature in degrees Fahrenheit are found in Tables 2 through 7.

## 2.0 PROCEDURE

Selected data from National Bureau of Standards (NBS) thermocouple tables (Ref. 1) were used in an automatic computer program utilizing the "Orthogonal Polynomials in the Least Squares Fitting of Unequally Spaced Data" method given in Ref. 2. The coefficients  $a_0$  through  $a_3$  of the equation

$$T = a_0 + a_1(\text{mv}) + a_2(\text{mv})^2 + a_3(\text{mv})^3, \text{ } ^\circ\text{F}$$

were determined for portions of the full range of each table. The portion of the table fitted was limited so that errors of less than 1 $^\circ$ F would be obtainable when the fitted data were compared with the NBS table data.

The thermocouple tables in this report were computed from the fitted polynomials using the ERA 1102 computer. Temperatures are tabulated for every 0.01 millivolts.

All equations and tables presented are based on a 32 $^\circ$ F reference junction.

## 3.0 APPLICATION

Temperatures can be computed from millivolt readings using the above equation and the proper coefficients  $a_0$  through  $a_3$  given in Table 1.

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Manuscript received March 1964.



Subroutines for automatic calculation in the ERA 1102 computer have been programmed for the range of -8 to 75 millivolts and -342 to 3262°F.

Tables 2 through 7 are arranged for selection of temperature for each 0.01 millivolt increment.

The range of each table is as follows:

Table	Type Thermocouple	Millivolt Range	Temperature Range, °F
2.	Chromel-Alumel	-4.99 to 54.99	-252 to 2504
3.	Iron-Constantan	-7.49 to 49.99	-298 to 1598
4.	Chromel-Constantan	-7.99 to 74.99	-281 to 1797
5.	Platinum-Platinum + 10% Rhodium	0 to 18.49	32 to 3185
6.	Platinum-Platinum 13% Rhodium	0 to 19.99	32 to 3097
7.	Copper-Constantan	-4.99 to 19.99	-272 to 727

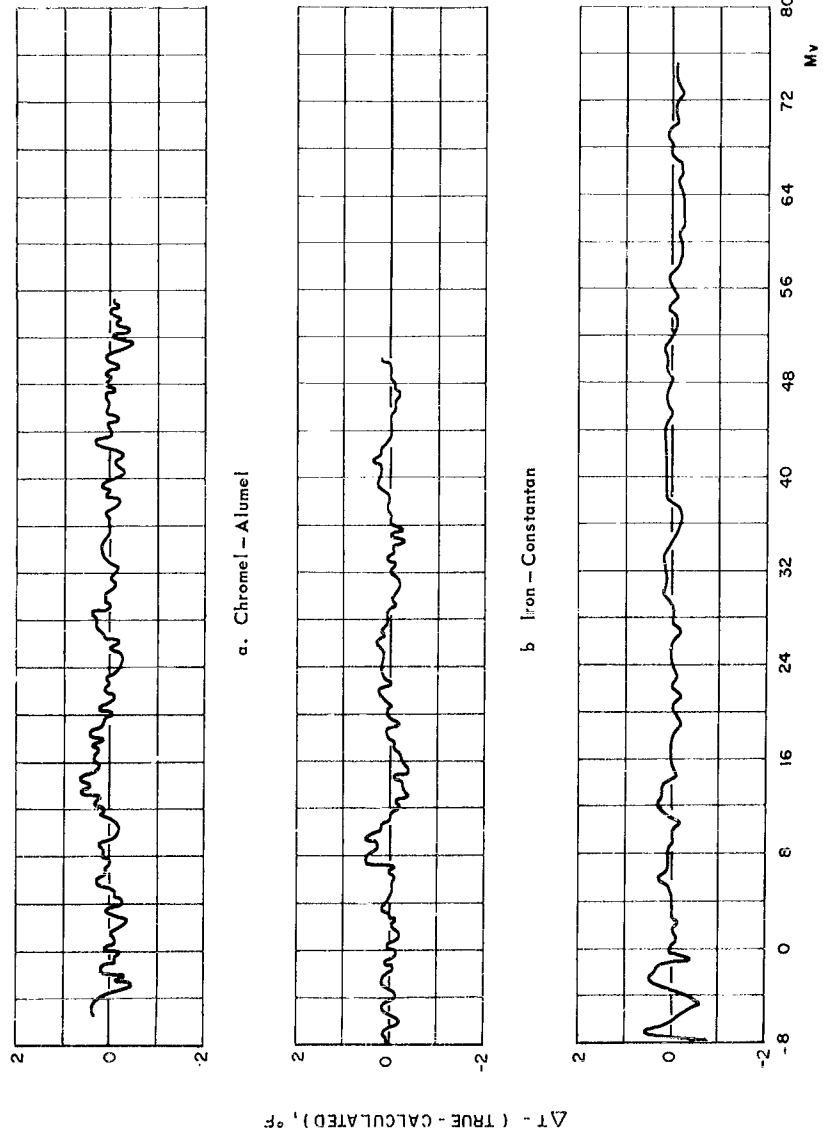
#### 4.0 ACCURACY

Previous experience had shown that good fitting accuracy could be obtained only by using a very high order polynomial for most thermocouple tables. For this reason it was decided to fit parts of each table to third degree polynomials with a requirement of better than 1°F accuracy. The 1°F accuracy limit has no significance except that it is less than the 4 to 5°F error expected in uncalibrated thermocouples. Also it will normally provide acceptable accuracy where heating rates are to be determined.

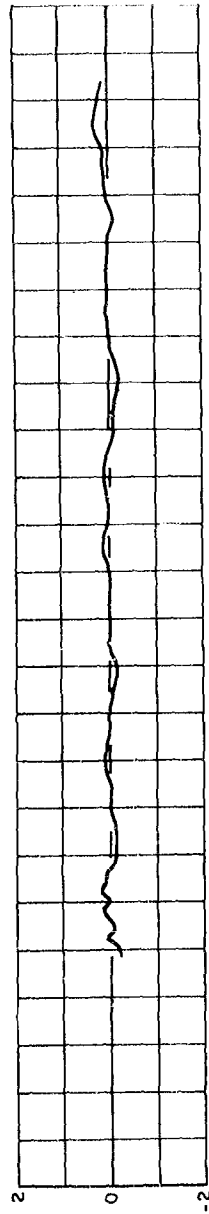
In the region of temperature to which each thermocouple is applied in PWT, errors were kept to less than 0.5 deg. An error curve is presented in Fig. 1 for each thermocouple.

#### REFERENCES

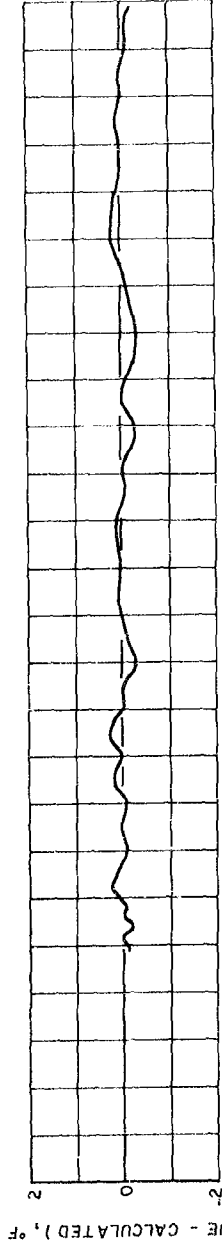
1. Henry Chenker, John I. Lauritzen, Jr., Robert J. Corruccini, and S. T. Lonberger, "Reference Tables for Thermocouples," NBS Circular 561.
2. P. G. Guest, "Orthogonal Polynomials in the Least Squares Fitting of Observations," Philosophical Magazine, 1950.



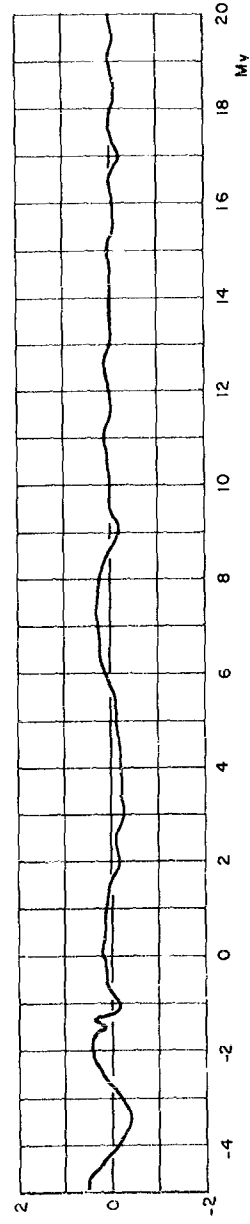
c. Chromel - Constantan  
Fig. 1 Error Curves for Thermocouples



d. Platinum - Platinum + 10% Rhodium



e. Platinum - Platinum + 13% Rhodium



f. Copper - Constantan

Fig. 1 Concluded

TABLE 1

## COEFFICIENTS FOR THE EQUATION,

$$T(^{\circ}\text{F}) = a_0 + a_1(\text{mv}) + a_2(\text{mv})^2 + a_3(\text{mv})^3$$

(32 $^{\circ}$ F Reference Junction)

Chromel vs. Alumel				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
- 4.99 ≤ mv ≤ - 0.60	34.8143	51.7169	2.1368	.6626
- 0.60 < mv ≤ 6.00	31.9314	45.9088	- 0.7951	.0783
6.00 < mv ≤ 11.20	37.8303	39.9429	0.7136	-.0334
11.20 < mv ≤ 27.75	21.0000	47.2790	- 0.2168	.0031
27.75 < mv ≤ 42.75	62.2065	43.5592	- 0.1162	.00239
42.75 < mv ≤ 54.99	-442.9660	76.2616	- 0.8188	.007392

Iron vs. Constantan				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
- 7.49 ≤ mv ≤ - 4.00	109.6757	83.6977	9.4929	.7453
- 4.00 < mv ≤ 5.99	32.1458	35.7773	- 0.4891	.0333
5.99 < mv ≤ 22.00	41.3000	32.5200	0	0
22.00 < mv ≤ 32.72	116.8400	22.5860	0.4357	-.00635
32.72 < mv ≤ 49.99	-474.7219	72.9579	- 1.0038	.007477

Platinum - Platinum + 10 percent Rhodium				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
0 ≤ mv ≤ 1.00	32.1743	324.5434	-86.8832	26.4537
1.00 < mv ≤ 3.00	55.4855	258.2756	-19.3142	1.7756
3.00 < mv ≤ 9.40	101.9123	212.0621	- 3.9503	.0713
9.40 < mv ≤ 14.70	16.1503	240.8103	- 7.0946	.1838
14.70 < mv ≤ 18.49	2.9500	227.1176	- 5.0482	.1120

Platinum - Platinum + 13 percent Rhodium				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
0 ≤ mv ≤ 1.00	32.1013	328.4190	-94.7849	27.7991
1.00 < mv ≤ 3.00	53.2945	263.2782	-25.6978	2.5857
3.00 < mv ≤ 9.50	109.8730	204.9557	- 5.1464	.1229
9.50 < mv ≤ 16.40	45.2955	221.6315	- 6.4385	.1496
16.40 < mv ≤ 17.875	2396.0600	-196.6100	18.4800	-.3478
17.875 < mv ≤ 19.99	1476.8000	- 26.3900	8.0560	-.1364

Chromel - Constantan				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
- 7.99 ≤ mv ≤ - 1.02	34.9749	34.4676	0.7464	.1717
- 1.02 < mv ≤ 9.71	32.0387	30.8632	- 0.4598	.01273
9.71 < mv ≤ 35.57	44.5596	27.7224	- 0.1590	.00157
35.57 < mv ≤ 74.99	96.2643	23.4786	- 0.0372	.000354

Copper - Constantan				
Millivolt Range	$a_0$	$a_1$	$a_2$	$a_3$
- 4.99 ≤ mv ≤ - 1.27	42.2547	60.8391	4.6204	1.0106
- 1.27 < mv ≤ 9.00	31.8409	46.7569	- 1.2582	.0434
9.00 < mv ≤ 19.99	50.7646	40.1854	- 0.4148	.00475

Table 2  
Chromel-Alumel

TABLE 2  
TEMPERATURE VS MILLIVOLTS FOR CHROMEL-ALUMEL THERMOCOUPLES

Reference Junction, 32 °F

Millivolts	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-04.90	-0245.2	-0246.0	-0246.8	-0247.6	-0248.4	-0249.2	-0250.0	-0250.8	-0251.6	-0252.4
-04.80	-0237.5	-0238.2	-0239.0	-0239.8	-0240.6	-0241.3	-0242.1	-0242.9	-0243.7	-0244.5
-04.70	-0229.8	-0230.6	-0231.4	-0232.1	-0232.9	-0233.6	-0234.4	-0235.2	-0235.9	-0236.7
-04.60	-0222.4	-0223.1	-0223.9	-0224.6	-0225.3	-0226.1	-0226.8	-0227.6	-0228.3	-0229.1
-04.50	-0215.0	-0215.7	-0216.5	-0217.2	-0217.9	-0218.7	-0219.4	-0220.1	-0220.9	-0221.6
-04.40	-0207.8	-0208.5	-0209.2	-0210.0	-0210.7	-0211.4	-0212.1	-0212.8	-0213.6	-0214.3
-04.30	-0200.7	-0201.4	-0202.1	-0202.9	-0203.6	-0204.3	-0205.0	-0205.7	-0206.4	-0207.1
-04.20	-0193.8	-0194.5	-0195.2	-0195.9	-0196.6	-0197.3	-0197.9	-0198.6	-0199.3	-0200.0
-04.10	-0187.0	-0187.7	-0188.3	-0189.0	-0189.7	-0190.4	-0191.1	-0191.7	-0192.4	-0193.1
-04.00	-0180.3	-0180.9	-0181.6	-0182.3	-0182.9	-0183.6	-0184.3	-0185.0	-0185.6	-0186.3
-03.90	-0173.7	-0174.3	-0175.0	-0175.7	-0176.3	-0177.0	-0177.6	-0178.3	-0178.9	-0179.6
-03.80	-0167.2	-0167.9	-0168.5	-0169.1	-0169.8	-0170.4	-0171.1	-0171.7	-0172.4	-0173.0
-03.70	-0160.8	-0161.5	-0162.1	-0162.7	-0163.4	-0164.0	-0164.7	-0165.3	-0165.9	-0166.6
-03.60	-0154.6	-0155.2	-0155.8	-0156.5	-0157.1	-0157.7	-0158.3	-0159.0	-0159.6	-0160.2
-03.50	-0148.4	-0149.0	-0149.7	-0150.3	-0150.9	-0151.5	-0152.1	-0152.7	-0153.3	-0154.0
-03.40	-0142.4	-0143.0	-0143.6	-0144.2	-0144.8	-0145.4	-0146.0	-0146.6	-0147.2	-0147.8
-03.30	-0136.4	-0137.0	-0137.6	-0138.2	-0138.8	-0139.4	-0140.0	-0140.6	-0141.2	-0141.8
-03.20	-0130.5	-0131.1	-0131.7	-0132.3	-0132.9	-0133.4	-0134.0	-0134.6	-0135.2	-0135.8
-03.10	-0124.7	-0125.3	-0125.9	-0126.4	-0127.0	-0127.6	-0128.2	-0128.8	-0129.3	-0129.9
-03.00	-0119.0	-0119.6	-0120.1	-0120.7	-0121.3	-0121.8	-0122.4	-0123.0	-0123.6	-0124.1
-02.90	-0113.4	-0113.9	-0114.5	-0115.0	-0115.6	-0116.2	-0116.7	-0117.3	-0117.9	-0118.4
-02.80	-0107.8	-0108.3	-0108.9	-0109.5	-0110.0	-0110.6	-0111.1	-0111.7	-0112.2	-0112.8
-02.70	-0102.3	-0102.8	-0103.4	-0103.9	-0104.5	-0105.0	-0105.6	-0106.1	-0106.7	-0107.2
-02.60	-0096.9	-0097.4	-0097.9	-0098.5	-0099.0	-0099.6	-0100.1	-0100.6	-0101.2	-0101.7
-02.50	-0091.5	-0092.0	-0092.5	-0093.1	-0093.6	-0094.2	-0094.7	-0095.2	-0095.8	-0096.3
-02.40	-0086.2	-0086.7	-0087.2	-0087.7	-0088.3	-0088.8	-0089.3	-0089.9	-0090.4	-0090.9
-02.30	-0080.9	-0081.4	-0081.9	-0082.5	-0083.0	-0083.5	-0084.0	-0084.6	-0085.1	-0085.6
-02.20	-0075.7	-0076.2	-0076.7	-0077.2	-0077.8	-0078.3	-0078.8	-0079.3	-0079.8	-0080.4
-02.10	-0070.5	-0071.0	-0071.5	-0072.1	-0072.6	-0073.1	-0073.6	-0074.1	-0074.6	-0075.2
-02.00	-0065.4	-0065.9	-0066.4	-0066.9	-0067.4	-0067.9	-0068.4	-0069.0	-0069.5	-0070.0
-01.90	-0060.3	-0060.8	-0061.3	-0061.8	-0062.3	-0062.8	-0063.3	-0063.8	-0064.4	-0064.9
-01.80	-0055.2	-0055.7	-0056.2	-0056.7	-0057.2	-0057.7	-0058.3	-0058.8	-0059.3	-0059.8
-01.70	-0050.2	-0050.7	-0051.2	-0051.7	-0052.2	-0052.7	-0053.2	-0053.7	-0054.2	-0054.7
-01.60	-0045.2	-0045.7	-0046.2	-0046.7	-0047.2	-0047.7	-0048.2	-0048.7	-0049.2	-0049.7
-01.50	-0040.2	-0040.7	-0041.2	-0041.7	-0042.2	-0042.7	-0043.2	-0043.7	-0044.2	-0044.7
-01.40	-0035.2	-0035.7	-0036.2	-0036.7	-0037.2	-0037.7	-0038.2	-0038.7	-0039.2	-0039.7
-01.30	-0030.3	-0030.8	-0031.3	-0031.7	-0032.2	-0032.7	-0033.2	-0033.7	-0034.2	-0034.7
-01.20	-0025.3	-0025.8	-0026.3	-0026.8	-0027.3	-0027.8	-0028.3	-0028.8	-0029.3	-0029.8
-01.10	-0020.4	-0020.9	-0021.4	-0021.9	-0022.3	-0022.8	-0023.3	-0023.8	-0024.3	-0024.8
-01.00	-0015.4	-0015.9	-0016.4	-0016.9	-0017.4	-0017.9	-0018.4	-0018.9	-0019.4	-0019.9
-00.90	-0010.5	-0011.0	-0011.5	-0012.0	-0012.5	-0013.0	-0013.5	-0013.9	-0014.4	-0014.9
-00.80	-0005.5	-0006.0	-0006.5	-0007.0	-0007.5	-0008.0	-0008.5	-0009.0	-0009.5	-0010.0
-00.70	-0000.6	-0001.1	-0001.6	-0002.1	-0002.6	-0003.1	-0003.5	-0004.0	-0004.5	-0005.0
-00.60	0004.1	0003.9	0003.4	0002.9	0002.4	0001.9	0001.4	0000.9	0000.4	0000.1
-00.50	0008.8	0008.3	0007.8	0007.4	0006.9	0006.4	0006.0	0005.5	0005.0	0004.6
-00.40	0013.4	0013.0	0012.5	0012.0	0011.5	0011.1	0010.6	0010.2	0009.7	0009.2
-00.30	0018.1	0017.6	0017.2	0016.7	0016.2	0015.8	0015.3	0014.8	0014.4	0013.9
-00.20	0022.7	0022.3	0021.8	0021.3	0020.9	0020.4	0019.9	0019.5	0019.0	0018.5
-00.10	0027.3	0026.9	0026.4	0025.9	0025.5	0025.0	0024.6	0024.1	0023.6	0023.2
-00.00	0031.9	0031.5	0031.0	0030.6	0030.1	0029.6	0029.2	0028.7	0028.3	0027.8

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
00.00	0031.9	0032.4	0032.8	0033.3	0033.8	0034.2	0034.7	0035.1	0035.6	0036.1
00.10	0036.5	0037.0	0037.4	0037.9	0038.3	0038.8	0039.3	0039.7	0040.2	0040.6
00.20	0041.1	0041.5	0042.0	0042.4	0042.9	0043.4	0043.8	0044.3	0044.7	0045.2
00.30	0045.6	0046.1	0046.5	0047.0	0047.5	0047.9	0048.4	0048.8	0049.3	0049.7
00.40	0050.2	0050.6	0051.1	0051.5	0052.0	0052.4	0052.9	0053.3	0053.8	0054.2
00.50	0054.7	0055.1	0055.6	0056.1	0056.5	0057.0	0057.4	0057.9	0058.3	0058.8
00.60	0059.2	0059.7	0060.1	0060.6	0061.0	0061.5	0061.9	0062.4	0062.8	0063.3
00.70	0063.7	0064.2	0064.6	0065.1	0065.5	0065.9	0066.4	0066.8	0067.3	0067.7
00.80	0068.2	0068.6	0069.1	0069.5	0070.0	0070.4	0070.9	0071.3	0071.8	0072.2
00.90	0072.7	0073.1	0073.6	0074.0	0074.4	0074.9	0075.3	0075.8	0076.2	0076.7
01.00	0077.1	0077.6	0078.0	0078.5	0078.9	0079.3	0079.8	0080.2	0080.7	0081.1
01.10	0081.6	0082.0	0082.5	0082.9	0083.3	0083.8	0084.2	0084.7	0085.1	0085.6
01.20	0086.0	0086.5	0086.9	0087.3	0087.8	0088.2	0088.7	0089.1	0089.6	0090.0
01.30	0090.4	0090.9	0091.3	0091.8	0092.2	0092.7	0093.1	0093.5	0094.0	0094.4
01.40	0094.9	0095.3	0095.7	0096.2	0096.6	0097.1	0097.5	0097.9	0098.4	0098.8
01.50	0099.3	0099.7	0100.2	0100.6	0101.0	0101.5	0101.9	0102.4	0102.8	0103.2
01.60	0103.7	0104.1	0104.5	0105.0	0105.4	0105.9	0106.3	0106.7	0107.2	0107.6
01.70	0108.1	0108.5	0108.9	0109.4	0109.8	0110.3	0110.7	0111.1	0111.6	0112.0
01.80	0112.4	0112.9	0113.3	0113.8	0114.2	0114.6	0115.1	0115.5	0115.9	0116.4
01.90	0116.8	0117.3	0117.7	0118.1	0118.6	0119.0	0119.4	0119.9	0120.3	0120.8
02.00	0121.2	0121.6	0122.1	0122.5	0122.9	0123.4	0123.8	0124.2	0124.7	0125.1
02.10	0125.6	0126.0	0126.4	0126.9	0127.3	0127.7	0128.2	0128.6	0129.0	0129.5
02.20	0129.9	0130.4	0130.8	0131.2	0131.7	0132.1	0132.5	0133.0	0133.4	0133.8
02.30	0134.3	0134.7	0135.1	0135.6	0136.0	0136.4	0136.9	0137.3	0137.7	0138.2
02.40	0138.6	0139.0	0139.5	0139.9	0140.4	0140.8	0141.2	0141.7	0142.1	0142.5
02.50	0143.0	0143.4	0143.8	0144.3	0144.7	0145.1	0145.6	0146.0	0146.4	0146.9
02.60	0147.3	0147.7	0148.2	0148.6	0149.0	0149.5	0149.9	0150.3	0150.8	0151.2
02.70	0151.6	0152.1	0152.5	0152.9	0153.4	0153.8	0154.2	0154.7	0155.1	0155.5
02.80	0156.0	0156.4	0156.8	0157.3	0157.7	0158.1	0158.6	0159.0	0159.4	0159.9
02.90	0160.3	0160.7	0161.2	0161.6	0162.0	0162.5	0162.9	0163.3	0163.7	0164.2
03.00	0164.6	0165.0	0165.5	0165.9	0166.3	0166.8	0167.2	0167.6	0168.1	0168.5
03.10	0168.9	0169.4	0169.8	0170.2	0170.7	0171.1	0171.5	0172.0	0172.4	0172.8
03.20	0173.3	0173.7	0174.1	0174.6	0175.0	0175.4	0175.9	0176.3	0176.7	0177.2
03.30	0177.6	0178.0	0178.4	0178.9	0179.3	0179.7	0180.2	0180.6	0181.0	0181.5
03.40	0181.9	0182.3	0182.8	0183.2	0183.6	0184.1	0184.5	0184.9	0185.4	0185.8
03.50	0186.2	0186.7	0187.1	0187.5	0188.0	0188.4	0188.8	0189.3	0189.7	0190.1
03.60	0190.6	0191.0	0191.4	0191.8	0192.3	0192.7	0193.1	0193.6	0194.0	0194.4
03.70	0194.9	0195.3	0195.7	0196.2	0196.6	0197.0	0197.5	0197.9	0198.3	0198.8
03.80	0199.2	0199.6	0200.1	0200.5	0200.9	0201.4	0201.8	0202.2	0202.7	0203.1
03.90	0203.5	0204.0	0204.4	0204.8	0205.3	0205.7	0206.1	0206.6	0207.0	0207.4
04.00	0207.9	0208.3	0208.7	0209.2	0209.6	0210.0	0210.5	0210.9	0211.3	0211.8
04.10	0212.2	0212.6	0213.1	0213.5	0213.9	0214.4	0214.8	0215.2	0215.7	0216.1
04.20	0216.5	0217.0	0217.4	0217.8	0218.3	0218.7	0219.1	0219.6	0220.0	0220.4
04.30	0220.9	0221.3	0221.7	0222.2	0222.6	0223.0	0223.5	0223.9	0224.3	0224.8
04.40	0225.2	0225.6	0226.1	0226.5	0226.9	0227.4	0227.8	0228.2	0228.7	0229.1
04.50	0229.6	0230.0	0230.4	0230.9	0231.3	0231.7	0232.2	0232.6	0233.0	0233.5
04.60	0233.9	0234.3	0234.8	0235.2	0235.7	0236.1	0236.5	0237.0	0237.4	0237.8
04.70	0238.3	0238.7	0239.1	0239.6	0240.0	0240.5	0240.9	0241.3	0241.8	0242.2
04.80	0242.6	0243.1	0243.5	0243.9	0244.4	0244.8	0245.3	0245.7	0246.1	0246.6
04.90	0247.0	0247.4	0247.9	0248.3	0248.8	0249.2	0249.6	0250.1	0250.5	0250.9

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
05.00	0251.4	0251.8	0252.3	0252.7	0253.1	0253.6	0254.0	0254.5	0254.9	0255.3
05.10	0255.8	0256.2	0256.7	0257.1	0257.5	0258.0	0258.4	0258.8	0259.3	0259.7
05.20	0260.2	0260.6	0261.0	0261.5	0261.9	0262.4	0262.8	0263.2	0263.7	0264.1
05.30	0264.6	0265.0	0265.5	0265.9	0266.3	0266.8	0267.2	0267.7	0268.1	0268.5
05.40	0269.0	0269.4	0269.9	0270.3	0270.7	0271.2	0271.6	0272.1	0272.5	0273.0
05.50	0273.4	0273.8	0274.3	0274.7	0275.2	0275.6	0276.1	0276.5	0276.9	0277.4
05.60	0277.8	0278.3	0278.7	0279.2	0279.6	0280.1	0280.5	0280.9	0281.4	0281.8
05.70	0282.3	0282.7	0283.2	0283.6	0284.1	0284.5	0284.9	0285.4	0285.8	0286.3
05.80	0286.7	0287.2	0287.6	0288.1	0288.5	0289.0	0289.4	0289.9	0290.3	0290.7
05.90	0291.2	0291.6	0292.1	0292.5	0293.0	0293.4	0293.9	0294.3	0294.8	0295.2
06.00	0295.7	0296.4	0296.9	0297.3	0297.8	0298.2	0298.7	0299.1	0299.6	0300.0
06.10	0300.5	0300.9	0301.4	0301.8	0302.2	0302.7	0303.1	0303.6	0304.0	0304.5
06.20	0304.9	0305.4	0305.8	0306.3	0306.7	0307.2	0307.6	0308.1	0308.5	0309.0
06.30	0309.4	0309.9	0310.3	0310.8	0311.2	0311.7	0312.1	0312.6	0313.0	0313.5
06.40	0313.9	0314.4	0314.8	0315.3	0315.7	0316.2	0316.6	0317.1	0317.5	0318.0
06.50	0318.4	0318.9	0319.3	0319.8	0320.2	0320.7	0321.1	0321.6	0322.0	0322.5
06.60	0322.9	0323.4	0323.8	0324.3	0324.7	0325.2	0325.6	0326.1	0326.5	0327.0
06.70	0327.4	0327.9	0328.3	0328.8	0329.2	0329.7	0330.1	0330.6	0331.0	0331.5
06.80	0331.9	0332.4	0332.8	0333.3	0333.7	0334.2	0334.6	0335.1	0335.5	0336.0
06.90	0336.4	0336.9	0337.3	0337.8	0338.2	0338.7	0339.1	0339.6	0340.0	0340.5
07.00	0340.9	0341.4	0341.8	0342.3	0342.7	0343.2	0343.6	0344.1	0344.5	0345.0
07.10	0345.4	0345.9	0346.3	0346.8	0347.2	0347.7	0348.1	0348.6	0349.0	0349.5
07.20	0349.9	0350.4	0350.8	0351.3	0351.7	0352.2	0352.6	0353.1	0353.5	0354.0
07.30	0354.4	0354.9	0355.3	0355.8	0356.2	0356.7	0357.1	0357.6	0358.0	0358.5
07.40	0358.9	0359.4	0359.8	0360.3	0360.7	0361.2	0361.7	0362.1	0362.6	0363.0
07.50	0363.5	0363.9	0364.4	0364.8	0365.3	0365.7	0366.2	0366.6	0367.1	0367.5
07.60	0368.0	0368.4	0368.9	0369.3	0369.8	0370.2	0370.7	0371.1	0371.6	0372.0
07.70	0372.5	0372.9	0373.4	0373.8	0374.3	0374.7	0375.1	0375.6	0376.1	0376.5
07.80	0376.9	0377.4	0377.8	0378.3	0378.7	0379.2	0379.6	0380.1	0380.5	0381.0
07.90	0381.4	0381.9	0382.3	0382.8	0383.2	0383.7	0384.1	0384.6	0385.0	0385.5
08.00	0385.9	0386.4	0386.8	0387.3	0387.7	0388.2	0388.6	0389.1	0389.5	0390.0
08.10	0390.4	0390.9	0391.3	0391.8	0392.2	0392.7	0393.1	0393.6	0394.0	0394.5
08.20	0394.9	0395.4	0395.8	0396.3	0396.7	0397.2	0397.6	0398.1	0398.5	0399.0
08.30	0399.4	0399.9	0400.3	0400.8	0401.2	0401.7	0402.1	0402.6	0403.0	0403.5
08.40	0403.9	0404.4	0404.8	0405.3	0405.7	0406.1	0406.6	0407.0	0407.5	0407.9
08.50	0408.4	0408.8	0409.3	0409.7	0410.2	0410.6	0411.1	0411.5	0412.0	0412.4
08.60	0412.9	0413.3	0413.8	0414.2	0414.7	0415.1	0415.6	0416.0	0416.5	0416.9
08.70	0417.4	0417.8	0418.2	0418.7	0419.1	0419.6	0420.0	0420.5	0420.9	0421.4
08.80	0421.8	0422.3	0422.7	0423.2	0423.6	0424.1	0424.5	0425.0	0425.4	0425.9
08.90	0426.3	0426.7	0427.2	0427.6	0428.1	0428.5	0429.0	0429.4	0429.9	0430.3
09.00	0430.8	0431.2	0431.7	0432.1	0432.6	0433.0	0433.4	0433.9	0434.3	0434.8
09.10	0435.2	0435.7	0436.1	0436.6	0437.0	0437.5	0437.9	0438.4	0438.8	0439.2
09.20	0439.7	0440.1	0440.6	0441.0	0441.5	0441.9	0442.4	0442.8	0443.3	0443.7
09.30	0444.2	0444.6	0445.0	0445.5	0445.9	0446.4	0446.8	0447.3	0447.7	0448.2
09.40	0448.6	0449.0	0449.5	0449.9	0450.4	0450.8	0451.3	0451.7	0452.2	0452.6
09.50	0453.1	0453.5	0453.9	0454.4	0454.8	0455.3	0455.7	0456.2	0456.6	0457.1
09.60	0457.5	0457.9	0458.4	0458.8	0459.3	0459.7	0460.2	0460.6	0461.0	0461.5
09.70	0461.9	0462.4	0462.8	0463.3	0463.7	0464.2	0464.6	0465.0	0465.5	0465.9
09.80	0466.4	0466.8	0467.3	0467.7	0468.1	0468.6	0469.0	0469.5	0469.9	0470.4
09.90	0470.8	0471.2	0471.7	0472.1	0472.6	0473.0	0473.5	0473.9	0474.3	0474.8

Temperature, °F



TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
10.00	0479.7	0479.7	0479.1	0478.5	0477.6	0477.4	0477.9	0477.3	0476.8	0479.2
10.10	0479.0	0480.1	0480.5	0481.0	0481.4	0481.3	0482.3	0482.7	0483.2	0483.6
10.20	0484.0	0484.5	0484.9	0485.4	0485.8	0486.2	0486.7	0487.1	0487.6	0488.0
10.30	0488.5	0488.9	0489.3	0489.8	0490.2	0490.5	0491.1	0491.5	0492.0	0492.4
10.40	0492.8	0493.3	0493.7	0494.2	0494.6	0495.0	0495.5	0495.9	0496.4	0496.8
10.50	0497.2	0497.7	0498.1	0498.6	0499.0	0499.4	0499.9	0500.3	0500.7	0501.2
10.60	0501.6	0502.1	0502.5	0502.9	0503.4	0503.8	0504.3	0504.7	0505.1	0505.6
10.70	0506.0	0506.4	0506.9	0507.3	0507.8	0508.2	0508.6	0509.1	0509.5	0509.9
10.80	0510.4	0510.8	0511.2	0511.7	0512.1	0512.6	0513.0	0513.4	0513.9	0514.3
10.90	0514.7	0515.2	0515.6	0516.0	0516.5	0516.9	0517.4	0517.8	0518.2	0518.7
11.00	0519.1	0519.5	0520.0	0520.4	0520.9	0521.3	0521.7	0522.1	0522.6	0523.0
11.10	0523.4	0523.9	0524.3	0524.7	0525.2	0525.6	0526.0	0526.5	0526.9	0527.3
11.20	0527.8	0528.1	0528.6	0529.0	0529.4	0529.9	0530.3	0530.7	0531.2	0531.6
11.30	0532.0	0532.5	0532.9	0533.3	0533.8	0534.2	0534.7	0535.1	0535.5	0536.0
11.40	0536.4	0536.8	0537.3	0537.7	0538.1	0538.6	0539.0	0539.4	0539.9	0540.3
11.50	0540.8	0541.2	0541.6	0542.1	0542.5	0542.9	0543.4	0543.8	0544.2	0544.7
11.60	0545.1	0545.5	0546.0	0546.4	0546.8	0547.3	0547.7	0548.1	0548.6	0549.0
11.70	0549.5	0549.9	0550.3	0550.8	0551.2	0551.6	0552.1	0552.5	0552.9	0553.4
11.80	0553.8	0554.2	0554.7	0555.1	0555.5	0556.0	0556.4	0556.8	0557.3	0557.7
11.90	0558.1	0558.6	0559.0	0559.4	0559.9	0560.3	0560.7	0561.2	0561.6	0562.1
12.00	0562.5	0562.9	0563.4	0563.8	0564.2	0564.7	0565.1	0565.5	0566.0	0566.4
12.10	0566.8	0567.3	0567.7	0568.1	0568.6	0569.0	0569.4	0569.9	0570.3	0570.7
12.20	0571.2	0571.6	0572.0	0572.5	0572.9	0573.3	0573.8	0574.2	0574.6	0575.1
12.30	0575.5	0575.9	0576.4	0576.8	0577.2	0577.7	0578.1	0578.5	0579.0	0579.4
12.40	0579.8	0580.3	0580.7	0581.1	0581.6	0582.0	0582.4	0582.9	0583.3	0583.7
12.50	0584.2	0584.6	0585.0	0585.5	0585.9	0586.3	0586.7	0587.2	0587.6	0588.1
12.60	0588.5	0588.9	0589.4	0589.8	0590.2	0590.7	0591.1	0591.5	0592.0	0592.4
12.70	0592.8	0593.3	0593.7	0594.1	0594.6	0595.0	0595.4	0595.9	0596.3	0596.7
12.80	0597.2	0597.6	0598.0	0598.4	0598.9	0599.3	0599.7	0600.2	0600.6	0601.0
12.90	0601.5	0601.9	0602.3	0602.8	0603.2	0603.6	0604.1	0604.5	0604.9	0605.4
13.00	0605.8	0606.2	0606.7	0607.1	0607.5	0608.0	0608.4	0608.8	0609.3	0609.7
13.10	0610.1	0610.5	0611.0	0611.4	0611.8	0612.3	0612.7	0613.1	0613.6	0614.0
13.20	0614.4	0614.9	0615.3	0615.7	0616.2	0616.6	0617.0	0617.5	0617.9	0618.3
13.30	0618.8	0619.2	0619.6	0620.0	0620.5	0620.9	0621.3	0621.8	0622.2	0622.6
13.40	0623.1	0623.5	0623.9	0624.4	0624.8	0625.2	0625.7	0626.1	0626.5	0627.0
13.50	0627.4	0627.8	0628.2	0628.7	0629.1	0629.5	0630.0	0630.4	0630.8	0631.3
13.60	0631.7	0632.1	0632.6	0633.0	0633.4	0633.8	0634.3	0634.7	0635.1	0635.6
13.70	0636.0	0636.4	0636.9	0637.3	0637.7	0638.2	0638.6	0639.0	0639.4	0639.9
13.80	0640.3	0640.7	0641.2	0641.6	0642.0	0642.5	0642.9	0643.3	0643.8	0644.2
13.90	0644.6	0645.0	0645.5	0645.9	0646.3	0646.8	0647.2	0647.6	0648.1	0648.5
14.00	0648.9	0649.3	0649.8	0650.2	0650.6	0651.1	0651.5	0651.9	0652.4	0652.8
14.10	0653.2	0653.7	0654.1	0654.5	0654.9	0655.4	0655.8	0656.2	0656.7	0657.1
14.20	0657.5	0657.9	0658.4	0658.8	0659.2	0659.7	0660.1	0660.5	0661.0	0661.4
14.30	0661.7	0662.2	0662.6	0663.0	0663.5	0663.9	0664.3	0664.8	0665.2	0665.7
14.40	0666.1	0666.5	0667.0	0667.4	0667.8	0668.3	0668.7	0669.1	0669.6	0670.0
14.50	0670.4	0670.9	0671.3	0671.7	0672.1	0672.6	0673.0	0673.4	0673.9	0674.3
14.60	0674.7	0675.1	0675.6	0676.0	0676.4	0676.9	0677.3	0677.7	0678.2	0678.6
14.70	0679.0	0679.4	0679.9	0680.3	0680.7	0681.1	0681.6	0682.0	0682.4	0682.9
14.80	0683.3	0683.7	0684.1	0684.6	0685.0	0685.4	0685.9	0686.3	0686.7	0687.1
14.90	0687.6	0688.0	0688.4	0688.9	0689.3	0689.7	0690.2	0690.6	0691.0	0691.5

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
15.00	0631.9	0692.3	0692.7	0693.2	0693.6	0694.0	0694.4	0694.9	0695.3	0695.7
15.10	0695.2	0695.6	0697.0	0697.4	0697.9	0698.3	0698.7	0699.2	0699.6	0700.0
15.20	0700.4	0700.9	0701.3	0701.7	0702.2	0702.6	0703.0	0703.4	0703.9	0704.3
15.30	0704.7	0705.1	0705.6	0706.0	0706.4	0706.9	0707.3	0707.7	0708.1	0708.6
15.40	0709.0	0709.4	0709.9	0710.3	0710.7	0711.1	0711.6	0712.0	0712.4	0712.9
15.50	0713.3	0713.7	0714.1	0714.6	0715.0	0715.4	0715.8	0716.3	0716.7	0717.1
15.60	0717.6	0718.0	0718.4	0718.8	0719.3	0719.7	0720.1	0720.6	0721.0	0721.4
15.70	0721.8	0722.3	0722.7	0723.1	0723.5	0724.0	0724.4	0724.8	0725.3	0725.7
15.80	0726.1	0726.5	0727.0	0727.4	0727.8	0728.2	0728.7	0729.1	0729.5	0730.0
15.90	0730.4	0730.8	0731.2	0731.7	0732.1	0732.5	0733.0	0733.4	0733.8	0734.2
16.00	0734.7	0735.1	0735.5	0735.9	0736.4	0736.8	0737.2	0737.6	0738.1	0738.5
16.10	0738.9	0739.4	0739.8	0740.2	0740.6	0741.1	0741.5	0741.9	0742.3	0742.8
16.20	0743.2	0743.6	0744.1	0744.5	0744.9	0745.3	0745.8	0746.2	0746.6	0747.0
16.30	0747.5	0747.9	0748.3	0748.8	0749.2	0749.6	0750.0	0750.5	0750.9	0751.3
16.40	0751.7	0752.2	0752.6	0753.0	0753.4	0753.9	0754.3	0754.7	0755.2	0755.6
16.50	0756.0	0756.4	0756.9	0757.3	0757.7	0758.1	0758.6	0759.0	0759.4	0759.8
16.60	0760.3	0760.7	0761.1	0761.5	0762.0	0762.4	0762.8	0763.3	0763.7	0764.1
16.70	0764.5	0765.0	0765.4	0765.8	0766.2	0766.7	0767.1	0767.5	0767.9	0768.4
16.80	0768.8	0769.2	0769.6	0770.1	0770.5	0770.9	0771.4	0771.8	0772.2	0772.6
16.90	0773.1	0773.5	0773.9	0774.3	0774.8	0775.2	0775.6	0776.0	0776.5	0776.9
17.00	0777.3	0777.7	0778.2	0778.6	0779.0	0779.4	0779.9	0780.3	0780.7	0781.2
17.10	0781.6	0782.0	0782.4	0782.9	0783.3	0783.7	0784.1	0784.6	0785.0	0785.4
17.20	0785.8	0786.3	0786.7	0787.1	0787.5	0788.0	0788.4	0788.8	0789.2	0789.7
17.30	0790.1	0790.5	0790.9	0791.4	0791.8	0792.2	0792.6	0793.1	0793.5	0793.9
17.40	0794.3	0794.8	0795.2	0795.6	0796.0	0796.5	0796.9	0797.3	0797.7	0798.2
17.50	0798.6	0799.0	0799.5	0799.9	0800.3	0800.7	0801.2	0801.6	0802.0	0802.4
17.60	0802.9	0803.3	0803.7	0804.1	0804.6	0805.0	0805.4	0805.8	0806.3	0806.7
17.70	0807.1	0807.5	0808.0	0808.4	0808.8	0809.2	0809.7	0810.1	0810.5	0810.9
17.80	0811.4	0811.8	0812.2	0812.6	0813.1	0813.5	0813.9	0814.3	0814.8	0815.2
17.90	0815.6	0816.0	0816.5	0816.9	0817.3	0817.7	0818.2	0818.6	0819.0	0819.4
18.00	0819.9	0820.3	0820.7	0821.1	0821.6	0822.0	0822.4	0822.8	0823.3	0823.7
18.10	0824.1	0824.5	0825.0	0825.4	0825.8	0826.2	0826.7	0827.1	0827.5	0827.9
18.20	0828.4	0828.8	0829.2	0829.6	0830.1	0830.5	0830.9	0831.3	0831.7	0832.2
18.30	0832.6	0833.0	0833.4	0833.9	0834.3	0834.7	0835.1	0835.6	0836.0	0836.4
18.40	0836.8	0837.3	0837.7	0838.1	0838.5	0839.0	0839.4	0839.8	0840.2	0840.7
18.50	0841.1	0841.5	0841.9	0842.4	0842.8	0843.2	0843.6	0844.1	0844.5	0844.9
18.60	0845.3	0845.8	0846.2	0846.6	0847.0	0847.5	0847.9	0848.3	0848.7	0849.1
18.70	0849.6	0850.0	0850.4	0850.8	0851.3	0851.7	0852.1	0852.5	0853.0	0853.4
18.80	0853.8	0854.2	0854.7	0855.1	0855.5	0855.9	0856.4	0856.8	0857.2	0857.6
18.90	0858.1	0858.5	0858.9	0859.3	0859.8	0860.2	0860.6	0861.0	0861.4	0861.9
19.00	0862.3	0862.7	0863.1	0863.6	0864.0	0864.4	0864.8	0865.3	0865.7	0866.1
19.10	0866.5	0867.0	0867.4	0867.8	0868.2	0868.7	0869.1	0869.5	0869.9	0870.4
19.20	0870.8	0871.2	0871.6	0872.0	0872.5	0872.9	0873.3	0873.7	0874.2	0874.6
19.30	0875.0	0875.4	0875.9	0876.3	0876.7	0877.1	0877.6	0878.0	0878.4	0878.8
19.40	0879.3	0879.7	0880.1	0880.5	0880.9	0881.4	0881.8	0882.2	0882.6	0883.1
19.50	0883.5	0883.9	0884.3	0884.8	0885.2	0885.6	0886.0	0886.5	0886.9	0887.3
19.60	0887.7	0888.1	0888.6	0889.0	0889.4	0889.8	0890.3	0890.7	0891.1	0891.5
19.70	0892.0	0892.4	0892.8	0893.2	0893.7	0894.1	0894.5	0894.9	0895.3	0895.8
19.80	0896.2	0896.6	0897.0	0897.5	0897.9	0898.3	0898.7	0899.1	0899.6	0900.0
19.90	0900.4	0900.8	0901.3	0901.7	0902.1	0902.5	0903.0	0903.4	0903.8	0904.2

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
20.00	0904.7	0905.1	0905.5	0905.9	0906.4	0906.7	0907.2	0907.6	0908.0	0908.5
20.10	0905.5	0905.3	0905.7	0906.0	0906.6	0907.0	0907.4	0907.9	0908.3	0908.7
20.20	0913.1	0913.5	0914.0	0914.4	0914.8	0915.2	0915.7	0916.1	0916.5	0916.9
20.30	0917.4	0917.0	0917.4	0917.8	0918.0	0918.5	0918.9	0919.3	0919.7	0920.1
20.40	0921.6	0922.0	0922.4	0922.9	0923.3	0923.7	0924.1	0924.5	0925.0	0925.4
20.50	0925.3	0926.2	0926.7	0927.1	0927.5	0927.9	0928.4	0928.8	0929.2	0929.6
20.60	0930.0	0930.5	0930.9	0931.3	0931.7	0932.2	0932.6	0933.0	0933.4	0933.9
20.70	0934.3	0934.7	0935.1	0935.5	0936.0	0936.4	0936.8	0937.2	0937.7	0938.1
20.80	0938.5	0938.9	0939.3	0939.8	0940.2	0940.6	0941.0	0941.5	0941.9	0942.3
20.90	0942.7	0943.2	0943.6	0944.0	0944.4	0944.8	0945.3	0945.7	0946.1	0946.5
21.00	0947.0	0947.4	0947.8	0948.2	0948.6	0949.1	0949.5	0949.9	0950.3	0950.8
21.10	0951.2	0951.6	0952.0	0952.5	0952.9	0953.3	0953.7	0954.1	0954.6	0955.0
21.20	0955.4	0955.3	0956.3	0956.7	0957.1	0957.5	0957.9	0958.4	0958.8	0959.2
21.30	0959.6	0960.1	0960.5	0960.9	0961.3	0961.8	0962.2	0962.6	0963.0	0963.4
21.40	0963.9	0964.3	0964.7	0965.1	0965.6	0966.0	0966.4	0966.8	0967.2	0967.7
21.50	0968.1	0968.5	0968.9	0969.4	0969.8	0970.2	0970.6	0971.0	0971.5	0971.9
21.60	0972.3	0972.7	0973.2	0973.6	0974.0	0974.4	0974.9	0975.3	0975.7	0976.1
21.70	0976.5	0977.0	0977.4	0977.8	0978.2	0978.7	0979.1	0979.5	0979.9	0980.3
21.80	0980.8	0981.2	0981.6	0982.0	0982.5	0982.9	0983.3	0983.7	0984.1	0984.6
21.90	0985.0	0985.4	0985.8	0986.3	0986.7	0987.1	0987.5	0987.9	0988.4	0988.8
22.00	0989.2	0989.6	0990.1	0990.5	0990.9	0991.3	0991.7	0992.2	0992.6	0993.0
22.10	0993.4	0993.9	0994.3	0994.7	0995.1	0995.6	0996.0	0996.4	0996.8	0997.2
22.20	0997.7	0998.1	0998.5	0998.9	0999.4	0999.8	1000.2	1000.6	1001.0	1001.5
22.30	1001.9	1002.3	1002.7	1003.2	1003.6	1004.0	1004.4	1004.8	1005.3	1005.7
22.40	1006.1	1006.5	1007.0	1007.4	1007.8	1008.2	1008.6	1009.1	1009.5	1009.9
22.50	1010.3	1010.8	1011.2	1011.6	1012.0	1012.4	1012.9	1013.3	1013.7	1014.1
22.60	1014.6	1015.0	1015.4	1015.8	1016.2	1016.7	1017.1	1017.5	1017.9	1018.4
22.70	1018.8	1019.2	1019.6	1020.0	1020.5	1020.9	1021.3	1021.7	1022.2	1022.6
22.80	1023.0	1023.4	1023.8	1024.3	1024.7	1025.1	1025.5	1026.0	1026.4	1026.8
22.90	1027.2	1027.6	1028.1	1028.5	1028.9	1029.3	1029.8	1030.2	1030.6	1031.0
23.00	1031.4	1031.9	1032.3	1032.7	1033.1	1033.6	1034.0	1034.4	1034.8	1035.2
23.10	1035.7	1036.1	1036.5	1036.9	1037.4	1037.8	1038.2	1038.6	1039.0	1039.5
23.20	1039.9	1040.3	1040.7	1041.2	1041.6	1042.0	1042.4	1042.8	1043.3	1043.7
23.30	1044.1	1044.5	1045.0	1045.4	1045.8	1046.2	1046.6	1047.1	1047.5	1047.9
23.40	1048.3	1048.8	1049.2	1049.6	1050.0	1050.4	1050.9	1051.3	1051.7	1052.1
23.50	1052.6	1053.0	1053.4	1053.8	1054.2	1054.7	1055.1	1055.5	1055.9	1056.4
23.60	1056.8	1057.2	1057.6	1058.0	1058.5	1058.9	1059.3	1059.7	1060.2	1060.6
23.70	1061.0	1061.4	1061.8	1062.3	1062.7	1063.1	1063.5	1064.0	1064.4	1064.8
23.80	1065.2	1065.6	1066.1	1066.5	1066.9	1067.3	1067.8	1068.2	1068.6	1069.0
23.90	1069.4	1069.9	1070.3	1070.7	1071.1	1071.6	1072.0	1072.4	1072.8	1073.2
24.00	1073.7	1074.1	1074.5	1074.9	1075.4	1075.8	1076.2	1076.6	1077.1	1077.5
24.10	1077.9	1078.3	1078.7	1079.2	1079.6	1080.0	1080.4	1080.9	1081.3	1081.7
24.20	1082.1	1082.5	1083.0	1083.4	1083.8	1084.2	1084.7	1085.1	1085.5	1085.9
24.30	1086.3	1086.8	1087.2	1087.6	1088.0	1088.5	1088.9	1089.3	1089.7	1090.1
24.40	1090.6	1091.0	1091.4	1091.8	1092.3	1092.7	1093.1	1093.5	1093.9	1094.4
24.50	1094.8	1095.2	1095.6	1096.1	1096.5	1096.9	1097.3	1097.7	1098.2	1098.6
24.60	1099.0	1099.4	1099.9	1100.3	1100.7	1101.1	1101.5	1101.9	1102.4	1102.8
24.70	1103.2	1103.7	1104.1	1104.5	1104.9	1105.3	1105.8	1106.2	1106.6	1107.0
24.80	1107.5	1107.9	1108.3	1108.7	1109.2	1109.6	1110.0	1110.4	1110.8	1111.3
24.90	1111.7	1112.1	1112.5	1113.0	1113.4	1113.8	1114.2	1114.6	1115.1	1115.5

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
25.00	1115.9	1116.3	1116.8	1117.2	1117.6	1118.0	1118.4	1118.9	1119.3	1119.7
25.10	1120.1	1120.6	1121.0	1121.4	1121.8	1122.2	1122.7	1123.1	1123.5	1123.9
25.20	1124.4	1124.8	1125.2	1125.6	1126.1	1126.5	1126.9	1127.3	1127.7	1128.2
25.30	1128.6	1129.0	1129.4	1129.9	1130.3	1130.7	1131.1	1131.5	1132.0	1132.4
25.40	1132.8	1133.2	1133.7	1134.1	1134.5	1134.9	1135.4	1135.8	1136.2	1136.6
25.50	1137.0	1137.5	1137.9	1138.3	1138.7	1139.2	1139.6	1140.0	1140.4	1140.8
25.60	1141.3	1141.7	1142.1	1142.5	1143.0	1143.4	1143.8	1144.2	1144.7	1145.1
25.70	1145.5	1145.9	1146.3	1146.8	1147.2	1147.6	1148.0	1148.5	1148.9	1149.3
25.80	1149.7	1150.1	1150.6	1151.0	1151.4	1151.8	1152.3	1152.7	1153.1	1153.5
25.90	1154.0	1154.4	1154.8	1155.2	1155.6	1156.1	1156.5	1156.9	1157.3	1157.8
26.00	1158.2	1158.6	1159.0	1159.5	1159.9	1160.3	1160.7	1161.1	1161.6	1162.0
26.10	1162.4	1162.8	1163.3	1163.7	1164.1	1164.5	1164.9	1165.4	1165.8	1166.2
26.20	1166.6	1167.1	1167.5	1167.9	1168.3	1168.8	1169.2	1169.6	1170.0	1170.4
26.30	1170.9	1171.3	1171.7	1172.1	1172.6	1173.0	1173.4	1173.8	1174.3	1174.7
26.40	1175.1	1175.5	1175.9	1176.4	1176.8	1177.2	1177.6	1178.1	1178.5	1178.9
26.50	1179.3	1179.8	1180.2	1180.6	1181.0	1181.4	1181.9	1182.3	1182.7	1183.1
26.60	1183.6	1184.0	1184.4	1184.8	1185.3	1185.7	1186.1	1186.5	1187.0	1187.4
26.70	1187.8	1188.2	1188.6	1189.1	1189.5	1189.9	1190.3	1190.8	1191.2	1191.6
26.80	1192.0	1192.5	1192.9	1193.3	1193.7	1194.1	1194.6	1195.0	1195.4	1195.8
26.90	1196.3	1196.7	1197.1	1197.5	1198.0	1198.4	1198.8	1199.2	1199.7	1200.1
27.00	1200.5	1200.9	1201.3	1201.8	1202.2	1202.6	1203.0	1203.5	1203.9	1204.3
27.10	1204.7	1205.2	1205.6	1206.0	1206.4	1206.9	1207.3	1207.7	1208.1	1208.5
27.20	1209.0	1209.4	1209.8	1210.2	1210.7	1211.1	1211.5	1211.9	1212.4	1212.8
27.30	1213.2	1213.6	1214.1	1214.5	1214.9	1215.3	1215.8	1216.2	1216.6	1217.0
27.40	1217.4	1217.9	1218.3	1218.7	1219.1	1219.6	1220.0	1220.4	1220.8	1221.3
27.50	1221.7	1222.1	1222.5	1223.0	1223.4	1223.8	1224.2	1224.7	1225.1	1225.5
27.60	1225.9	1226.3	1226.8	1227.2	1227.6	1228.0	1228.5	1228.9	1229.3	1229.7
27.70	1230.2	1230.6	1231.0	1231.4	1231.9	1232.3	1233.0	1233.4	1233.8	1234.3
27.80	1234.7	1235.1	1235.5	1236.0	1236.4	1236.8	1237.3	1237.7	1238.1	1238.5
27.90	1239.0	1239.4	1239.8	1240.2	1240.7	1241.1	1241.5	1241.9	1242.4	1242.8
28.00	1243.2	1243.7	1244.1	1244.5	1244.9	1245.4	1245.8	1246.2	1246.6	1247.1
28.10	1247.5	1247.9	1248.4	1248.8	1249.2	1249.6	1250.1	1250.5	1250.9	1251.3
28.20	1251.8	1252.2	1252.6	1253.0	1253.5	1253.9	1254.3	1254.8	1255.2	1255.6
28.30	1256.0	1256.5	1256.9	1257.3	1257.7	1258.2	1258.6	1259.0	1259.5	1259.9
28.40	1260.3	1260.7	1261.2	1261.6	1262.0	1262.4	1262.9	1263.3	1263.7	1264.2
28.50	1264.6	1265.0	1265.4	1265.9	1266.3	1266.7	1267.2	1267.6	1268.0	1268.4
28.60	1268.9	1269.3	1269.7	1270.1	1270.6	1271.0	1271.4	1271.9	1272.3	1272.7
28.70	1273.1	1273.6	1274.0	1274.4	1274.9	1275.3	1275.7	1276.1	1276.6	1277.0
28.80	1277.4	1277.9	1278.3	1278.7	1279.1	1279.6	1280.0	1280.4	1280.8	1281.3
28.90	1281.7	1282.1	1282.6	1283.0	1283.4	1283.8	1284.3	1284.7	1285.1	1285.6
29.00	1286.0	1286.4	1286.8	1287.3	1287.7	1288.1	1288.6	1289.0	1289.4	1289.8
29.10	1290.3	1290.7	1291.1	1291.6	1292.0	1292.4	1292.8	1293.3	1293.7	1294.1
29.20	1294.5	1295.0	1295.4	1295.8	1296.3	1296.7	1297.1	1297.6	1298.0	1298.4
29.30	1298.9	1299.3	1299.7	1300.1	1300.6	1301.0	1301.4	1301.9	1302.3	1302.7
29.40	1303.1	1303.6	1304.0	1304.4	1304.9	1305.3	1305.7	1306.1	1306.6	1307.0
29.50	1307.4	1307.9	1308.3	1308.7	1309.2	1309.6	1310.0	1310.4	1310.9	1311.3
29.60	1311.7	1312.2	1312.6	1313.0	1313.5	1313.9	1314.3	1314.7	1315.2	1315.6
29.70	1316.0	1316.5	1316.9	1317.3	1317.7	1318.2	1318.6	1319.0	1319.5	1319.9
29.80	1320.3	1320.8	1321.2	1321.6	1322.0	1322.5	1322.9	1323.3	1323.8	1324.2
29.90	1324.6	1325.1	1325.5	1325.9	1326.3	1326.8	1327.2	1327.6	1328.1	1328.5

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
30.00	1332.9	1332.4	1332.0	1331.2	1330.7	1331.1	1331.5	1331.9	1332.4	1332.8
30.10	1333.2	1333.7	1334.1	1334.5	1335.0	1335.4	1335.6	1336.3	1336.7	1337.1
30.20	1337.5	1338.0	1338.4	1338.8	1339.3	1339.7	1340.1	1340.6	1341.0	1341.4
30.30	1341.9	1342.3	1342.7	1343.1	1343.6	1344.0	1344.4	1344.9	1345.3	1345.7
30.40	1346.2	1346.6	1347.0	1347.5	1347.9	1348.3	1348.8	1349.2	1349.6	1350.0
30.50	1350.5	1350.9	1351.3	1351.8	1352.2	1352.6	1353.1	1353.5	1353.9	1354.4
30.60	1355.0	1355.2	1355.7	1356.1	1356.5	1357.0	1357.4	1357.8	1358.2	1358.7
30.70	1359.1	1359.5	1360.0	1360.4	1360.8	1361.3	1361.7	1362.1	1362.6	1363.0
30.80	1363.4	1363.9	1364.3	1364.7	1365.2	1365.6	1366.0	1366.5	1366.9	1367.3
30.90	1367.8	1368.2	1368.6	1369.0	1369.5	1369.9	1370.3	1370.8	1371.2	1371.6
31.00	1372.1	1372.5	1372.9	1373.4	1373.8	1374.2	1374.7	1375.1	1375.5	1376.0
31.10	1376.4	1376.8	1377.3	1377.7	1378.1	1378.6	1379.0	1379.4	1379.9	1380.3
31.20	1380.7	1381.2	1381.6	1382.0	1382.5	1382.9	1383.3	1383.8	1384.2	1384.6
31.30	1385.1	1385.5	1385.9	1386.4	1386.8	1387.2	1387.7	1388.1	1388.5	1389.0
31.40	1389.4	1389.8	1390.3	1390.7	1391.1	1391.6	1392.0	1392.4	1392.9	1393.3
31.50	1393.7	1394.2	1394.6	1395.0	1395.5	1395.9	1396.3	1396.8	1397.2	1397.6
31.60	1398.1	1398.5	1398.9	1399.4	1399.8	1400.2	1400.7	1401.1	1401.5	1402.0
31.70	1402.4	1402.8	1403.3	1403.7	1404.1	1404.6	1405.0	1405.4	1405.9	1406.3
31.80	1406.7	1407.2	1407.6	1408.0	1408.5	1408.9	1409.3	1409.8	1410.2	1410.6
31.90	1411.1	1411.5	1412.0	1412.4	1412.8	1413.3	1413.7	1414.1	1414.6	1415.0
32.00	1415.4	1415.9	1416.3	1416.7	1417.2	1417.6	1418.0	1418.5	1418.9	1419.3
32.10	1419.8	1420.2	1420.6	1421.1	1421.5	1422.0	1422.4	1422.8	1423.3	1423.7
32.20	1424.1	1424.6	1425.0	1425.4	1425.9	1426.3	1426.7	1427.2	1427.6	1428.0
32.30	1428.5	1428.9	1429.3	1429.8	1430.2	1430.7	1431.1	1431.5	1432.0	1432.4
32.40	1432.8	1433.3	1433.7	1434.1	1434.6	1435.0	1435.4	1435.9	1436.3	1436.8
32.50	1437.2	1437.6	1438.1	1438.5	1438.9	1439.4	1439.8	1440.2	1440.7	1441.1
32.60	1441.5	1442.0	1442.4	1442.9	1443.3	1443.7	1444.2	1444.6	1445.0	1445.5
32.70	1445.9	1446.3	1446.8	1447.2	1447.7	1448.1	1448.5	1449.0	1449.4	1449.8
32.80	1450.3	1450.7	1451.1	1451.6	1452.0	1452.5	1452.9	1453.3	1453.8	1454.2
32.90	1454.6	1455.1	1455.5	1455.9	1456.4	1456.8	1457.3	1457.7	1458.1	1458.6
33.00	1459.0	1459.4	1459.9	1460.3	1460.8	1461.2	1461.6	1462.1	1462.5	1462.9
33.10	1463.4	1463.8	1464.3	1464.7	1465.1	1465.6	1466.0	1466.4	1466.9	1467.3
33.20	1467.8	1468.2	1468.6	1469.1	1469.5	1469.9	1470.4	1470.8	1471.3	1471.7
33.30	1472.1	1472.6	1473.0	1473.4	1473.9	1474.3	1474.8	1475.2	1475.6	1476.1
33.40	1476.5	1476.9	1477.4	1477.8	1478.3	1478.7	1479.1	1479.6	1480.0	1480.4
33.50	1480.9	1481.3	1481.8	1482.2	1482.6	1483.1	1483.5	1484.0	1484.4	1484.8
33.60	1485.3	1485.7	1486.1	1486.6	1487.0	1487.5	1487.9	1488.3	1488.8	1489.2
33.70	1489.7	1490.1	1490.5	1491.0	1491.4	1491.9	1492.3	1492.7	1493.2	1493.6
33.80	1494.0	1494.5	1494.9	1495.4	1495.8	1496.2	1496.7	1497.1	1497.6	1498.0
33.90	1498.4	1498.9	1499.3	1499.8	1500.2	1500.6	1501.1	1501.5	1501.9	1502.4
34.00	1502.8	1503.3	1503.7	1504.1	1504.6	1505.0	1505.5	1505.9	1506.3	1506.8
34.10	1507.2	1507.7	1508.1	1508.5	1509.0	1509.4	1509.9	1510.3	1510.7	1511.2
34.20	1511.6	1512.1	1512.5	1512.9	1513.4	1513.8	1514.3	1514.7	1515.1	1515.6
34.30	1516.0	1516.5	1516.9	1517.3	1517.8	1518.2	1518.7	1519.1	1519.5	1520.0
34.40	1520.4	1520.9	1521.3	1521.7	1522.2	1522.6	1523.1	1523.5	1524.0	1524.4
34.50	1528.8	1529.3	1529.7	1530.2	1530.6	1531.0	1531.5	1531.9	1532.4	1532.8
34.60	1537.2	1537.7	1538.1	1538.6	1539.0	1539.5	1539.9	1540.3	1540.8	1541.2
34.70	1533.7	1534.1	1534.5	1535.0	1535.4	1535.9	1536.3	1536.7	1537.2	1537.6
34.80	1538.1	1538.5	1538.9	1539.4	1539.8	1540.3	1540.7	1541.1	1541.6	1542.0
34.90	1546.5	1546.9	1547.4	1547.8	1548.3	1548.7	1549.1	1549.6	1550.0	1550.5

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °P									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
35.00	1546.9	1547.3	1547.8	1548.2	1548.7	1549.1	1549.6	1550.0	1550.4	1550.9
35.10	1551.3	1551.8	1552.2	1552.7	1553.1	1553.5	1554.0	1554.4	1554.9	1555.3
35.20	1555.6	1556.2	1556.6	1557.1	1557.5	1558.0	1558.4	1558.9	1559.3	1559.7
35.30	1560.2	1560.6	1561.1	1561.5	1562.0	1562.4	1562.8	1563.3	1563.7	1564.2
35.40	1564.6	1565.1	1565.5	1565.9	1566.4	1566.8	1567.3	1567.7	1568.2	1568.6
35.50	1569.0	1569.5	1569.9	1570.4	1570.8	1571.3	1571.7	1572.1	1572.6	1573.0
35.60	1573.5	1573.9	1574.4	1574.8	1575.3	1575.7	1576.1	1576.6	1577.0	1577.5
35.70	1577.9	1578.4	1578.8	1579.2	1579.7	1580.1	1580.6	1581.0	1581.5	1581.9
35.80	1582.4	1582.8	1583.2	1583.7	1584.1	1584.6	1585.0	1585.5	1585.9	1586.4
35.90	1586.8	1587.2	1587.7	1588.1	1588.6	1589.0	1589.5	1589.9	1590.4	1590.8
36.00	1591.3	1591.7	1592.1	1592.6	1593.0	1593.5	1593.9	1594.4	1594.8	1595.3
36.10	1595.7	1596.1	1596.6	1597.0	1597.5	1597.9	1598.4	1598.8	1599.3	1599.7
36.20	1600.2	1600.6	1601.0	1601.5	1601.9	1602.4	1602.8	1603.3	1603.7	1604.2
36.30	1604.6	1605.1	1605.5	1605.9	1606.4	1606.8	1607.3	1607.7	1608.2	1608.6
36.40	1609.1	1609.5	1610.0	1610.4	1610.9	1611.3	1611.7	1612.2	1612.6	1613.1
36.50	1613.5	1614.0	1614.4	1614.9	1615.3	1615.8	1616.2	1616.7	1617.1	1617.5
36.60	1618.0	1618.4	1618.9	1619.3	1619.8	1620.2	1620.7	1621.1	1621.6	1622.0
36.70	1622.5	1622.9	1623.4	1623.8	1624.2	1624.7	1625.1	1625.6	1626.0	1626.5
36.80	1626.9	1627.4	1627.8	1628.3	1628.7	1629.2	1629.6	1630.1	1630.5	1631.0
36.90	1631.4	1631.9	1632.3	1632.7	1633.2	1633.6	1634.1	1634.5	1635.0	1635.4
37.00	1635.9	1636.3	1636.8	1637.2	1637.7	1638.1	1638.6	1639.0	1639.5	1639.9
37.10	1640.4	1640.8	1641.3	1641.7	1642.2	1642.6	1643.0	1643.5	1643.9	1644.4
37.20	1644.8	1645.3	1645.7	1646.2	1646.6	1647.1	1647.5	1648.0	1648.4	1648.9
37.30	1649.3	1649.8	1650.2	1650.7	1651.1	1651.6	1652.0	1652.5	1652.9	1653.4
37.40	1653.8	1654.3	1654.7	1655.2	1655.6	1656.1	1656.5	1657.0	1657.4	1657.9
37.50	1658.3	1658.8	1659.2	1659.7	1660.1	1660.6	1661.0	1661.5	1661.9	1662.4
37.60	1662.8	1663.2	1663.7	1664.1	1664.6	1665.0	1665.5	1665.9	1666.4	1666.8
37.70	1667.3	1667.7	1668.2	1668.6	1669.1	1669.5	1670.0	1670.4	1670.9	1671.3
37.80	1671.8	1672.2	1672.7	1673.1	1673.6	1674.0	1674.5	1675.0	1675.4	1675.9
37.90	1676.3	1676.8	1677.2	1677.7	1678.1	1678.6	1679.0	1679.5	1679.9	1680.4
38.00	1680.8	1681.3	1681.7	1682.2	1682.6	1683.1	1683.5	1684.0	1684.4	1684.9
38.10	1685.3	1685.8	1686.2	1686.7	1687.1	1687.6	1688.0	1688.5	1688.9	1689.4
38.20	1689.8	1690.3	1690.7	1691.2	1691.6	1692.1	1692.5	1693.0	1693.4	1693.9
38.30	1694.3	1694.8	1695.2	1695.7	1696.2	1696.6	1697.1	1697.5	1698.0	1698.4
38.40	1698.9	1699.3	1699.8	1700.2	1700.7	1701.1	1701.6	1702.0	1702.5	1702.9
38.50	1703.4	1703.8	1704.3	1704.7	1705.2	1705.7	1706.1	1706.6	1707.0	1707.5
38.60	1707.9	1708.4	1708.8	1709.3	1709.7	1710.2	1710.6	1711.1	1711.5	1712.0
38.70	1712.4	1712.9	1713.3	1713.8	1714.3	1714.7	1715.2	1715.6	1716.1	1716.5
38.80	1717.0	1717.4	1717.9	1718.3	1718.8	1719.2	1719.7	1720.1	1720.6	1721.1
38.90	1721.5	1722.0	1722.4	1722.9	1723.3	1723.8	1724.2	1724.7	1725.1	1725.6
39.00	1726.0	1726.5	1727.0	1727.4	1727.9	1728.3	1728.8	1729.2	1729.7	1730.1
39.10	1730.6	1731.0	1731.5	1732.0	1732.4	1732.9	1733.3	1733.8	1734.2	1734.7
39.20	1735.1	1735.6	1736.0	1736.5	1737.0	1737.4	1737.9	1738.3	1738.8	1739.2
39.30	1739.7	1740.1	1740.6	1741.0	1741.5	1742.0	1742.4	1742.9	1743.3	1743.8
39.40	1744.2	1744.7	1745.1	1745.6	1746.1	1746.5	1747.0	1747.4	1747.9	1748.3
39.50	1748.8	1749.2	1749.7	1750.2	1750.6	1751.1	1751.5	1752.0	1752.4	1752.9
39.60	1753.3	1753.8	1754.3	1754.7	1755.2	1755.6	1756.1	1756.5	1757.0	1757.5
39.70	1757.9	1758.4	1758.8	1759.3	1759.7	1760.2	1760.6	1761.1	1761.6	1762.0
39.80	1762.5	1762.9	1763.4	1763.8	1764.3	1764.8	1765.2	1765.7	1766.1	1766.6
39.90	1767.0	1767.5	1768.0	1768.4	1768.9	1769.3	1769.8	1770.2	1770.7	1771.2

Temperature, °F

TABLE 2 CHROM-CR-ALUMEL (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
40.00	1771.6	1772.1	1772.5	1773.0	1773.4	1773.9	1774.4	1774.8	1775.3	1775.7
40.10	1776.2	1776.6	1777.1	1777.6	1778.0	1778.5	1778.9	1779.4	1779.9	1780.3
40.20	1780.8	1781.2	1781.7	1782.1	1782.6	1783.1	1783.5	1784.0	1784.4	1784.9
40.30	1785.4	1785.8	1786.3	1786.7	1787.2	1787.6	1788.1	1788.6	1789.0	1789.5
40.40	1789.9	1790.4	1790.9	1791.3	1791.8	1792.2	1792.7	1793.1	1793.6	1794.1
40.50	1794.5	1795.0	1795.4	1795.9	1796.4	1796.8	1797.3	1797.7	1798.2	1798.7
40.60	1799.1	1799.6	1800.0	1800.5	1801.0	1801.4	1801.9	1802.3	1802.8	1803.3
40.70	1803.7	1804.2	1804.6	1805.1	1805.6	1806.0	1806.5	1806.9	1807.4	1807.9
40.80	1808.3	1808.8	1809.2	1809.7	1810.2	1810.6	1811.1	1811.5	1812.0	1812.5
40.90	1812.9	1813.4	1813.8	1814.3	1814.8	1815.2	1815.7	1816.1	1816.6	1817.1
41.00	1817.5	1818.0	1818.4	1818.9	1819.4	1819.8	1820.3	1820.7	1821.2	1821.7
41.10	1822.1	1822.6	1823.1	1823.5	1824.0	1824.4	1824.9	1825.4	1825.8	1826.3
41.20	1826.7	1827.2	1827.7	1828.1	1828.6	1829.1	1829.5	1830.0	1830.4	1830.9
41.30	1831.4	1831.8	1832.3	1832.8	1833.2	1833.7	1834.1	1834.6	1835.1	1835.5
41.40	1836.0	1836.4	1836.9	1837.4	1837.8	1838.3	1838.8	1839.2	1839.7	1840.1
41.50	1840.6	1841.1	1841.5	1842.0	1842.5	1842.9	1843.4	1843.8	1844.3	1844.8
41.60	1845.2	1845.7	1846.2	1846.6	1847.1	1847.6	1848.0	1848.5	1848.9	1849.4
41.70	1849.9	1850.3	1850.8	1851.3	1851.7	1852.2	1852.6	1853.1	1853.6	1854.0
41.80	1854.5	1855.0	1855.4	1855.9	1856.4	1856.8	1857.3	1857.8	1858.2	1858.7
41.90	1859.1	1859.6	1860.1	1860.5	1861.0	1861.5	1861.9	1862.4	1862.9	1863.3
42.00	1863.8	1864.3	1864.7	1865.2	1865.6	1866.1	1866.6	1867.0	1867.5	1868.0
42.10	1868.4	1868.9	1869.4	1869.8	1870.3	1870.8	1871.2	1871.7	1872.2	1872.6
42.20	1873.1	1873.5	1874.0	1874.5	1874.9	1875.4	1875.9	1876.3	1876.8	1877.3
42.30	1877.7	1878.2	1878.7	1879.1	1879.6	1880.1	1880.5	1881.0	1881.5	1881.9
42.40	1882.4	1882.9	1883.3	1883.8	1884.3	1884.7	1885.2	1885.7	1886.1	1886.6
42.50	1887.1	1887.5	1888.0	1888.5	1888.9	1889.4	1889.9	1890.3	1890.8	1891.3
42.60	1891.7	1892.2	1892.7	1893.1	1893.6	1894.1	1894.5	1895.0	1895.5	1895.9
42.70	1896.4	1896.9	1897.3	1897.8	1898.3	1898.7	1899.2	1899.6	1900.1	1900.5
42.80	1900.7	1901.1	1901.6	1902.1	1902.5	1903.0	1903.5	1903.9	1904.4	1904.9
42.90	1905.3	1905.8	1906.3	1906.8	1907.2	1907.7	1908.2	1908.6	1909.1	1909.6
43.00	1910.0	1910.5	1911.0	1911.4	1911.9	1912.4	1912.8	1913.3	1913.8	1914.2
43.10	1914.7	1915.2	1915.7	1916.1	1916.6	1917.1	1917.5	1918.0	1918.5	1918.9
43.20	1919.4	1919.9	1920.3	1920.8	1921.3	1921.8	1922.2	1922.7	1923.2	1923.6
43.30	1924.1	1924.6	1925.0	1925.5	1926.0	1926.4	1926.9	1927.4	1927.9	1928.3
43.40	1928.8	1929.3	1929.7	1930.2	1930.7	1931.1	1931.6	1932.1	1932.5	1933.0
43.50	1933.5	1934.0	1934.4	1934.9	1935.4	1935.8	1936.3	1936.8	1937.2	1937.7
43.60	1938.2	1938.7	1939.1	1939.6	1940.1	1940.5	1941.0	1941.5	1942.0	1942.4
43.70	1942.9	1943.4	1943.8	1944.3	1944.8	1945.2	1945.7	1946.2	1946.7	1947.1
43.80	1947.6	1948.1	1948.5	1949.0	1949.5	1950.0	1950.4	1950.9	1951.4	1951.8
43.90	1952.3	1952.8	1953.3	1953.7	1954.2	1954.7	1955.1	1955.6	1956.1	1956.5
44.00	1957.0	1957.5	1958.0	1958.4	1958.9	1959.4	1959.9	1960.3	1960.8	1961.3
44.10	1961.7	1962.2	1962.7	1963.2	1963.6	1964.1	1964.6	1965.0	1965.5	1966.0
44.20	1966.5	1966.9	1967.4	1967.9	1968.3	1968.8	1969.3	1969.8	1970.2	1970.7
44.30	1971.2	1971.7	1972.1	1972.6	1973.1	1973.5	1974.0	1974.5	1975.0	1975.4
44.40	1975.9	1976.4	1976.8	1977.3	1977.8	1978.3	1978.7	1979.2	1979.7	1980.2
44.50	1980.6	1981.1	1981.5	1982.0	1982.5	1983.0	1983.5	1983.9	1984.4	1984.9
44.60	1985.4	1985.8	1986.3	1986.8	1987.3	1987.7	1988.2	1988.7	1989.2	1989.6
44.70	1990.1	1990.6	1991.0	1991.5	1992.0	1992.5	1992.9	1993.4	1993.9	1994.4
44.80	1994.8	1995.3	1995.8	1996.3	1996.7	1997.2	1997.7	1998.2	1998.6	1999.1
44.90	1999.6	2000.1	2000.5	2001.0	2001.5	2002.0	2002.4	2002.9	2003.4	2003.8

Temperature, °F

TABLE 2 CHROMEL-ALUMEL (Continued)

Millivolta	Reference Junction, 32 ° F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
45.00	2004.3	2004.8	2005.3	2005.7	2006.2	2006.7	2007.2	2007.6	2008.1	2008.6
45.10	2009.1	2009.5	2010.0	2010.5	2011.0	2011.5	2011.9	2012.4	2012.9	2013.4
45.20	2013.8	2014.3	2014.8	2015.3	2015.7	2016.2	2016.7	2017.2	2017.6	2018.1
45.30	2018.6	2019.1	2019.5	2020.0	2020.5	2021.0	2021.4	2021.9	2022.4	2022.9
45.40	2023.3	2023.8	2024.3	2024.8	2025.2	2025.7	2026.2	2026.7	2027.2	2027.6
45.50	2028.1	2028.6	2029.1	2029.5	2030.0	2030.5	2031.0	2031.4	2031.9	2032.4
45.60	2032.9	2033.4	2033.8	2034.3	2034.8	2035.3	2035.7	2036.2	2036.7	2037.2
45.70	2037.6	2038.1	2038.6	2039.1	2039.6	2040.0	2040.5	2041.0	2041.5	2041.9
45.80	2042.4	2042.9	2043.4	2043.9	2044.3	2044.8	2045.3	2045.8	2046.2	2046.7
45.90	2047.2	2047.7	2048.2	2048.6	2049.1	2049.6	2050.1	2050.6	2051.0	2051.5
46.00	2052.0	2052.5	2052.9	2053.4	2053.9	2054.4	2054.9	2055.3	2055.8	2056.3
46.10	2056.8	2057.3	2057.7	2058.2	2058.7	2059.2	2059.6	2060.1	2060.6	2061.1
46.20	2061.6	2062.0	2062.5	2063.0	2063.5	2064.0	2064.4	2064.9	2065.4	2065.9
46.30	2066.4	2066.8	2067.3	2067.8	2068.3	2068.8	2069.2	2069.7	2070.2	2070.7
46.40	2071.2	2071.6	2072.1	2072.6	2073.1	2073.6	2074.0	2074.5	2075.0	2075.5
46.50	2076.0	2076.4	2076.9	2077.4	2077.9	2078.4	2078.9	2079.3	2079.8	2080.3
46.60	2080.8	2081.3	2081.7	2082.2	2082.7	2083.2	2083.7	2084.1	2084.6	2085.1
46.70	2085.6	2086.1	2086.5	2087.0	2087.5	2088.0	2088.5	2089.0	2089.4	2089.9
46.80	2090.4	2090.9	2091.4	2091.9	2092.3	2092.8	2093.3	2093.8	2094.3	2094.7
46.90	2095.2	2095.7	2096.2	2096.7	2097.2	2097.6	2098.1	2098.6	2099.1	2099.6
47.00	2100.1	2100.5	2101.0	2101.5	2102.0	2102.5	2102.9	2103.4	2103.9	2104.4
47.10	2104.9	2105.4	2105.8	2106.3	2106.8	2107.3	2107.8	2108.3	2108.7	2109.2
47.20	2109.7	2110.2	2110.7	2111.2	2111.7	2112.1	2112.6	2113.1	2113.6	2114.1
47.30	2114.6	2115.0	2115.5	2116.0	2116.5	2117.0	2117.5	2117.9	2118.4	2118.9
47.40	2119.4	2119.9	2120.4	2120.9	2121.3	2121.8	2122.3	2122.8	2123.3	2123.8
47.50	2124.2	2124.7	2125.2	2125.7	2126.2	2126.7	2127.2	2127.6	2128.1	2128.6
47.60	2129.1	2129.6	2130.1	2130.6	2131.0	2131.5	2132.0	2132.5	2133.0	2133.5
47.70	2134.0	2134.4	2134.9	2135.4	2135.9	2136.4	2136.9	2137.4	2137.9	2138.3
47.80	2138.8	2139.3	2139.8	2140.3	2140.8	2141.3	2141.7	2142.2	2142.7	2143.2
47.90	2143.7	2144.2	2144.7	2145.2	2145.6	2146.1	2146.6	2147.1	2147.6	2148.1
48.00	2148.6	2149.1	2149.5	2150.0	2150.5	2151.0	2151.5	2152.0	2152.5	2153.0
48.10	2153.4	2153.9	2154.4	2154.9	2155.4	2155.9	2156.4	2156.9	2157.3	2157.8
48.20	2158.3	2158.8	2159.3	2159.8	2160.3	2160.8	2161.3	2161.7	2162.2	2162.7
48.30	2163.2	2163.7	2164.2	2164.7	2165.2	2165.7	2166.1	2166.6	2167.1	2167.6
48.40	2168.1	2168.6	2169.1	2169.6	2170.1	2170.6	2171.0	2171.5	2172.0	2172.5
48.50	2173.0	2173.5	2174.0	2174.5	2175.0	2175.5	2175.9	2176.4	2176.9	2177.4
48.60	2177.9	2178.4	2178.9	2179.4	2179.9	2180.4	2180.8	2181.3	2181.8	2182.3
48.70	2182.8	2183.3	2183.8	2184.3	2184.8	2185.3	2185.8	2186.2	2186.7	2187.2
48.80	2187.7	2188.2	2188.7	2189.2	2189.7	2190.2	2190.7	2191.2	2191.7	2192.2
48.90	2192.6	2193.1	2193.6	2194.1	2194.6	2195.1	2195.5	2196.1	2196.6	2197.1
49.00	2197.5	2198.1	2198.6	2199.0	2199.5	2200.0	2200.5	2201.0	2201.5	2202.0
49.10	2202.5	2203.0	2203.5	2204.0	2204.5	2205.0	2205.5	2206.0	2206.5	2207.0
49.20	2207.4	2207.9	2208.4	2208.9	2209.4	2209.9	2210.4	2210.9	2211.4	2211.9
49.30	2212.4	2212.9	2213.4	2213.9	2214.4	2214.9	2215.4	2215.9	2216.4	2216.9
49.40	2217.3	2217.8	2218.3	2218.8	2219.3	2219.8	2220.3	2220.8	2221.3	2221.8
49.50	2222.3	2222.8	2223.3	2223.8	2224.2	2224.7	2225.2	2225.7	2226.2	2226.7
49.60	2227.2	2227.7	2228.2	2228.7	2229.2	2229.7	2230.2	2230.7	2231.2	2231.7
49.70	2232.2	2232.7	2233.2	2233.7	2234.2	2234.7	2235.2	2235.7	2236.2	2236.7
49.80	2237.2	2237.7	2238.2	2238.7	2239.2	2239.7	2240.2	2240.7	2241.2	2241.7
49.90	2242.1	2242.6	2243.1	2243.6	2244.1	2244.6	2245.1	2245.6	2246.1	2246.6

Temperature, °F



TABLE 2 CHROMEL-ALUMEL (Concluded)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
50.00	2247.1	2247.6	2248.1	2248.6	2249.1	2249.6	2250.1	2250.6	2251.1	2251.6
50.10	2252.1	2252.6	2253.1	2253.6	2254.1	2254.6	2255.1	2255.6	2256.1	2256.6
50.20	2257.1	2257.6	2258.1	2258.6	2259.1	2259.6	2260.1	2260.6	2261.1	2261.6
50.30	2262.1	2262.6	2263.1	2263.6	2264.1	2264.6	2265.1	2265.6	2266.1	2266.6
50.40	2267.1	2267.6	2268.1	2268.6	2269.1	2269.6	2270.1	2270.6	2271.1	2271.6
50.50	2272.1	2272.6	2273.1	2273.6	2274.1	2274.6	2275.1	2275.6	2276.1	2276.6
50.60	2277.1	2277.6	2278.1	2278.6	2279.1	2279.6	2280.1	2280.6	2281.1	2281.6
50.70	2282.1	2282.6	2283.1	2283.6	2284.1	2284.6	2285.1	2285.6	2286.1	2286.6
50.80	2287.1	2287.7	2288.2	2288.7	2289.2	2289.7	2290.2	2290.7	2291.2	2291.7
50.90	2292.2	2292.7	2293.2	2293.7	2294.2	2294.7	2295.2	2295.7	2296.2	2296.7
51.00	2297.2	2297.7	2298.2	2298.7	2299.2	2299.7	2300.2	2300.8	2301.3	2301.8
51.10	2302.3	2302.8	2303.3	2303.8	2304.3	2304.8	2305.3	2305.8	2306.3	2306.8
51.20	2307.3	2307.8	2308.3	2308.8	2309.3	2309.8	2310.4	2310.9	2311.4	2311.9
51.30	2312.4	2312.9	2313.4	2313.9	2314.4	2314.9	2315.4	2315.9	2316.4	2316.9
51.40	2317.4	2317.9	2318.5	2319.0	2319.5	2320.0	2320.5	2321.0	2321.5	2322.0
51.50	2322.5	2323.0	2323.5	2324.0	2324.5	2325.1	2325.6	2326.1	2326.6	2327.1
51.60	2327.6	2328.1	2328.6	2329.1	2329.6	2330.1	2330.6	2331.1	2331.7	2332.2
51.70	2332.7	2333.2	2333.7	2334.2	2334.7	2335.2	2335.7	2336.2	2336.7	2337.3
51.80	2337.3	2338.3	2338.8	2339.3	2339.8	2340.3	2340.8	2341.3	2341.8	2342.4
51.90	2342.9	2343.4	2343.9	2344.4	2344.9	2345.4	2345.9	2346.4	2346.9	2347.5
52.00	2348.0	2348.5	2349.0	2349.5	2350.0	2350.5	2351.0	2351.5	2352.1	2352.6
52.10	2353.1	2353.6	2354.1	2354.6	2355.1	2355.6	2356.1	2356.7	2357.2	2357.7
52.20	2358.2	2358.7	2359.2	2359.7	2360.2	2360.8	2361.3	2361.8	2362.3	2362.8
52.30	2363.3	2363.8	2364.3	2364.9	2365.4	2365.9	2366.4	2366.9	2367.4	2367.9
52.40	2368.4	2369.0	2369.5	2370.0	2370.5	2371.0	2371.5	2372.0	2372.6	2373.1
52.50	2373.6	2374.1	2374.6	2375.1	2375.6	2376.2	2376.7	2377.2	2377.7	2378.2
52.60	2378.7	2379.2	2379.8	2380.3	2380.8	2381.3	2381.8	2382.3	2382.9	2383.4
52.70	2383.9	2384.4	2384.9	2385.4	2385.9	2386.5	2387.0	2387.5	2388.0	2388.5
52.80	2389.0	2389.6	2390.1	2390.6	2391.1	2391.6	2392.1	2392.7	2393.2	2393.7
52.90	2394.2	2394.7	2395.2	2395.8	2396.3	2396.8	2397.3	2397.8	2398.3	2398.9
53.00	2399.4	2399.9	2400.4	2400.9	2401.4	2402.0	2402.5	2403.0	2403.5	2404.0
53.10	2404.6	2405.1	2405.6	2406.1	2406.6	2407.1	2407.7	2408.2	2408.7	2409.2
53.20	2409.7	2410.3	2410.8	2411.3	2411.8	2412.3	2412.9	2413.4	2413.9	2414.4
53.30	2414.9	2415.5	2416.0	2416.5	2417.0	2417.5	2418.1	2418.6	2419.1	2419.6
53.40	2420.1	2420.7	2421.2	2421.7	2422.2	2422.7	2423.3	2423.8	2424.3	2424.8
53.50	2425.3	2425.9	2426.4	2426.9	2427.4	2428.0	2428.5	2429.0	2429.5	2430.0
53.60	2430.6	2431.1	2431.6	2432.1	2432.7	2433.2	2433.7	2434.2	2434.7	2435.3
53.70	2435.8	2436.3	2436.8	2437.4	2437.9	2438.4	2438.9	2439.4	2440.0	2440.5
53.80	2441.0	2441.5	2442.1	2442.6	2443.1	2443.6	2444.2	2444.7	2445.2	2445.7
53.90	2446.3	2446.8	2447.3	2447.8	2448.4	2448.9	2449.4	2449.9	2450.5	2451.0
54.00	2451.5	2452.0	2452.6	2453.1	2453.6	2454.1	2454.7	2455.2	2455.7	2456.2
54.10	2456.8	2457.3	2457.8	2458.3	2458.9	2459.4	2459.9	2460.4	2461.0	2461.5
54.20	2462.0	2462.5	2463.1	2463.6	2464.1	2464.7	2465.2	2465.7	2466.2	2466.8
54.30	2467.3	2467.8	2468.3	2468.9	2469.4	2469.9	2470.4	2471.0	2471.5	2472.0
54.40	2472.6	2473.1	2473.6	2474.1	2474.7	2475.2	2475.7	2476.3	2476.8	2477.3
54.50	2477.8	2478.4	2478.9	2479.4	2480.0	2480.5	2481.0	2481.5	2482.1	2482.6
54.60	2483.1	2483.7	2484.2	2484.7	2485.3	2485.8	2486.3	2486.8	2487.4	2487.9
54.70	2488.4	2489.0	2489.5	2490.0	2490.6	2491.1	2491.6	2492.2	2492.7	2493.2
54.80	2493.7	2494.3	2494.8	2495.3	2495.9	2496.4	2496.9	2497.5	2498.0	2498.5
54.90	2499.1	2499.6	2500.1	2500.7	2501.2	2501.7	2502.3	2502.8	2503.3	2503.9

Temperature, °F

Table 3  
Iron-Constantan

TABLE 3  
TEMPERATURE VS MILLIVOLTS FOR IRON-CONSTANTAN THERMOCOUPLES

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-07.40	-0291.9	-0292.5	-0293.2	-0293.8	-0294.5	-0295.2	-0295.8	-0296.5	-0297.2	-0297.8
-07.30	-0285.4	-0286.0	-0286.7	-0287.3	-0288.0	-0288.6	-0289.3	-0289.9	-0290.6	-0291.2
-07.20	-0279.0	-0279.6	-0280.3	-0280.9	-0281.5	-0282.2	-0282.8	-0283.5	-0284.1	-0284.7
-07.10	-0272.8	-0273.4	-0274.0	-0274.6	-0275.3	-0275.9	-0276.5	-0277.1	-0277.8	-0278.4
-07.00	-0266.7	-0267.3	-0267.9	-0268.5	-0269.1	-0269.7	-0270.3	-0270.9	-0271.6	-0272.2
-06.90	-0260.7	-0261.3	-0261.9	-0262.5	-0263.1	-0263.7	-0264.3	-0264.9	-0265.5	-0266.1
-06.80	-0254.9	-0255.4	-0256.0	-0256.6	-0257.2	-0257.8	-0258.4	-0259.0	-0259.5	-0260.1
-06.70	-0249.1	-0249.7	-0250.3	-0250.8	-0251.4	-0252.0	-0252.6	-0253.1	-0253.7	-0254.3
-06.60	-0243.5	-0244.0	-0244.6	-0245.2	-0245.7	-0246.3	-0246.9	-0247.4	-0248.0	-0248.6
-06.50	-0238.0	-0238.5	-0239.1	-0239.6	-0240.2	-0240.7	-0241.3	-0241.8	-0242.4	-0242.9
-06.40	-0232.5	-0233.1	-0233.6	-0234.2	-0234.7	-0235.2	-0235.8	-0236.3	-0236.9	-0237.4
-06.30	-0227.2	-0227.7	-0228.3	-0228.8	-0229.3	-0229.9	-0230.4	-0230.9	-0231.5	-0232.0
-06.20	-0222.0	-0222.5	-0223.0	-0223.5	-0224.1	-0224.6	-0225.1	-0225.6	-0226.2	-0226.7
-06.10	-0216.8	-0217.3	-0217.8	-0218.4	-0218.9	-0219.4	-0219.9	-0220.4	-0220.9	-0221.5
-06.00	-0211.8	-0212.3	-0212.8	-0213.3	-0213.8	-0214.3	-0214.8	-0215.3	-0215.8	-0216.3
-05.90	-0206.8	-0207.3	-0207.8	-0208.3	-0208.7	-0209.2	-0209.7	-0210.2	-0210.7	-0211.2
-05.80	-0201.8	-0202.3	-0202.8	-0203.3	-0203.8	-0204.3	-0204.8	-0205.3	-0205.8	-0206.3
-05.70	-0197.0	-0197.5	-0198.0	-0198.4	-0198.9	-0199.4	-0199.9	-0200.4	-0200.9	-0201.4
-05.60	-0192.2	-0192.7	-0193.2	-0193.6	-0194.1	-0194.6	-0195.1	-0195.6	-0196.0	-0196.5
-05.50	-0187.5	-0188.0	-0188.4	-0188.9	-0189.4	-0189.9	-0190.3	-0190.8	-0191.3	-0191.7
-05.40	-0182.8	-0183.3	-0183.8	-0184.2	-0184.7	-0185.2	-0185.6	-0186.1	-0186.6	-0187.0
-05.30	-0178.2	-0178.7	-0179.1	-0179.6	-0180.1	-0180.5	-0181.0	-0181.4	-0181.9	-0182.4
-05.20	-0173.7	-0174.1	-0174.6	-0175.0	-0175.5	-0175.9	-0176.4	-0176.9	-0177.3	-0177.8
-05.10	-0169.1	-0169.6	-0170.0	-0170.5	-0170.9	-0171.4	-0171.8	-0172.3	-0172.8	-0173.2
-05.00	-0164.7	-0165.1	-0165.5	-0166.0	-0166.4	-0166.9	-0167.3	-0167.8	-0168.2	-0168.7
-04.90	-0160.2	-0160.6	-0161.1	-0161.5	-0162.0	-0162.4	-0162.9	-0163.3	-0163.8	-0164.2
-04.80	-0155.8	-0156.2	-0156.7	-0157.1	-0157.5	-0158.0	-0158.4	-0158.9	-0159.3	-0159.8
-04.70	-0151.4	-0151.8	-0152.3	-0152.7	-0153.1	-0153.6	-0154.0	-0154.5	-0154.9	-0155.3
-04.60	-0147.0	-0147.4	-0147.9	-0148.3	-0148.8	-0149.2	-0149.6	-0150.1	-0150.5	-0150.9
-04.50	-0142.6	-0143.1	-0143.5	-0144.0	-0144.4	-0144.8	-0145.3	-0145.7	-0146.1	-0146.6
-04.40	-0138.3	-0138.7	-0139.2	-0139.6	-0140.0	-0140.5	-0140.9	-0141.3	-0141.8	-0142.2
-04.30	-0134.0	-0134.4	-0134.8	-0135.3	-0135.7	-0136.1	-0136.6	-0137.0	-0137.4	-0137.9
-04.20	-0129.6	-0130.1	-0130.5	-0130.9	-0131.4	-0131.8	-0132.2	-0132.7	-0133.1	-0133.5
-04.10	-0125.3	-0125.7	-0126.1	-0126.6	-0127.0	-0127.4	-0127.9	-0128.3	-0128.8	-0129.2
-04.00	-0120.9	-0121.4	-0121.8	-0122.2	-0122.7	-0123.1	-0123.5	-0124.0	-0124.4	-0124.8
-03.90	-0116.8	-0117.2	-0117.6	-0118.0	-0118.4	-0118.9	-0119.3	-0119.7	-0120.1	-0120.5
-03.80	-0112.7	-0113.1	-0113.5	-0113.9	-0114.3	-0114.7	-0115.2	-0115.6	-0116.0	-0116.4
-03.70	-0108.6	-0109.0	-0109.4	-0109.8	-0110.2	-0110.7	-0111.1	-0111.5	-0111.9	-0112.3
-03.60	-0104.5	-0105.0	-0105.4	-0105.8	-0106.2	-0106.6	-0107.0	-0107.4	-0107.8	-0108.2
-03.50	-0100.5	-0100.9	-0101.3	-0101.7	-0102.1	-0102.5	-0102.9	-0103.3	-0103.7	-0104.1
-03.40	-0096.5	-0096.9	-0097.3	-0097.7	-0098.1	-0098.5	-0098.9	-0099.3	-0099.7	-0100.1
-03.30	-0092.4	-0092.8	-0093.2	-0093.6	-0094.0	-0094.4	-0094.9	-0095.3	-0095.7	-0096.1
-03.20	-0088.4	-0088.8	-0089.2	-0089.6	-0090.0	-0090.4	-0090.8	-0091.2	-0091.6	-0092.0
-03.10	-0084.5	-0084.9	-0085.3	-0085.6	-0086.0	-0086.4	-0086.8	-0087.2	-0087.6	-0088.0
-03.00	-0080.5	-0080.9	-0081.3	-0081.7	-0082.1	-0082.5	-0082.9	-0083.3	-0083.7	-0084.1
-02.90	-0076.5	-0076.9	-0077.3	-0077.7	-0078.1	-0078.5	-0078.9	-0079.3	-0079.7	-0080.1
-02.80	-0072.6	-0073.0	-0073.4	-0073.8	-0074.2	-0074.6	-0075.0	-0075.4	-0075.7	-0076.1
-02.70	-0068.7	-0069.1	-0069.5	-0069.8	-0070.2	-0070.6	-0071.0	-0071.4	-0071.8	-0072.2
-02.60	-0064.8	-0065.2	-0065.5	-0065.9	-0066.3	-0066.7	-0067.1	-0067.5	-0067.9	-0068.3
-02.50	-0060.9	-0061.3	-0061.7	-0062.0	-0062.4	-0062.8	-0063.2	-0063.6	-0064.0	-0064.4

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-02.40	-0057.0	-0057.4	-0057.8	-0058.2	-0058.5	-0058.9	-0059.3	-0059.7	-0060.1	-0060.5
-02.30	-0053.1	-0053.5	-0053.9	-0054.3	-0054.7	-0055.1	-0055.5	-0055.8	-0056.2	-0056.6
-02.20	-0049.3	-0049.7	-0050.1	-0050.4	-0050.8	-0051.2	-0051.6	-0052.0	-0052.4	-0052.7
-02.10	-0045.5	-0045.8	-0046.2	-0046.6	-0047.0	-0047.4	-0047.8	-0048.1	-0048.5	-0048.9
-02.00	-0041.6	-0042.0	-0042.4	-0042.8	-0043.2	-0043.5	-0043.9	-0044.3	-0044.7	-0045.1
-01.90	-0037.8	-0038.2	-0038.6	-0039.0	-0039.3	-0039.7	-0040.1	-0040.5	-0040.9	-0041.3
-01.80	-0034.0	-0034.4	-0034.8	-0035.2	-0035.5	-0035.9	-0036.3	-0036.7	-0037.1	-0037.4
-01.70	-0030.3	-0030.6	-0031.0	-0031.4	-0031.8	-0032.1	-0032.5	-0032.9	-0033.3	-0033.7
-01.60	-0026.5	-0026.9	-0027.2	-0027.6	-0028.0	-0028.4	-0028.7	-0029.1	-0029.5	-0029.9
-01.50	-0022.7	-0023.1	-0023.5	-0023.9	-0024.2	-0024.6	-0025.0	-0025.4	-0025.7	-0026.1
-01.40	-0019.0	-0019.4	-0019.7	-0020.1	-0020.5	-0020.9	-0021.2	-0021.6	-0022.0	-0022.4
-01.30	-0015.3	-0015.6	-0016.0	-0016.4	-0016.8	-0017.1	-0017.5	-0017.9	-0018.2	-0018.6
-01.20	-0011.5	-0011.9	-0012.3	-0012.7	-0013.0	-0013.4	-0013.8	-0014.1	-0014.5	-0014.9
-01.10	-0007.8	-0008.2	-0008.6	-0009.0	-0009.3	-0009.7	-0010.1	-0010.4	-0010.8	-0011.2
-01.00	-0004.2	-0004.5	-0004.9	-0005.3	-0005.6	-0006.0	-0006.4	-0006.7	-0007.1	-0007.5
-00.90	-0000.5	-0000.8	-0001.2	-0001.6	-0001.9	-0002.3	-0002.7	-0003.0	-0003.4	-0003.8
-00.80	0003.2	0002.8	0002.5	0002.1	0001.7	0001.4	0001.0	0000.6	0000.3	-0000.1
-00.70	0006.9	0006.5	0006.1	0005.8	0005.4	0005.0	0004.7	0004.3	0003.9	0003.6
-00.60	0010.5	0010.1	0009.8	0009.4	0009.0	0008.7	0008.3	0007.9	0007.6	0007.2
-00.50	0014.1	0013.8	0013.4	0013.0	0012.7	0012.3	0012.0	0011.6	0011.2	0010.9
-00.40	0017.8	0017.4	0017.0	0016.7	0016.3	0015.9	0015.6	0015.2	0014.9	0014.5
-00.30	0021.4	0021.0	0020.6	0020.3	0019.9	0019.6	0019.2	0018.8	0018.5	0018.1
-00.20	0025.0	0024.6	0024.3	0023.9	0023.5	0023.2	0022.8	0022.4	0022.1	0021.7
-00.10	0028.6	0028.2	0027.8	0027.5	0027.1	0026.8	0026.4	0026.0	0025.7	0025.3
-00.00	0032.1	0031.8	0031.4	0031.1	0030.7	0030.4	0030.0	0029.6	0029.3	0028.9
00.00	0032.1	0032.5	0032.9	0033.2	0033.6	0033.9	0034.3	0034.6	0035.0	0035.4
00.10	0035.7	0036.1	0036.4	0036.8	0037.1	0037.5	0037.9	0038.2	0038.6	0038.9
00.20	0039.3	0039.6	0040.0	0040.3	0040.7	0041.1	0041.4	0041.8	0042.1	0042.5
00.30	0042.8	0043.2	0043.5	0043.9	0044.3	0044.6	0045.0	0045.3	0045.7	0046.0
00.40	0046.4	0046.7	0047.1	0047.4	0047.8	0048.1	0048.5	0048.9	0049.2	0049.6
00.50	0049.9	0050.3	0050.6	0051.0	0051.3	0051.7	0052.0	0052.4	0052.7	0053.1
00.60	0053.4	0053.8	0054.1	0054.5	0054.9	0055.2	0055.6	0055.9	0056.3	0056.6
00.70	0057.0	0057.3	0057.7	0058.0	0058.4	0058.7	0059.1	0059.4	0059.8	0060.1
00.80	0060.5	0060.8	0061.2	0061.5	0061.9	0062.2	0062.6	0062.9	0063.3	0063.6
00.90	0064.0	0064.3	0064.7	0065.0	0065.4	0065.7	0066.1	0066.4	0066.8	0067.1
01.00	0067.5	0067.8	0068.2	0068.5	0068.9	0069.2	0069.6	0069.9	0070.3	0070.6
01.10	0071.0	0071.3	0071.6	0072.0	0072.3	0072.7	0073.0	0073.4	0073.7	0074.1
01.20	0074.4	0074.8	0075.1	0075.5	0075.8	0076.2	0076.5	0076.9	0077.2	0077.6
01.30	0077.9	0078.2	0078.6	0078.9	0079.3	0079.6	0080.0	0080.3	0080.7	0081.0
01.40	0081.4	0081.7	0082.1	0082.4	0082.7	0083.1	0083.4	0083.8	0084.1	0084.5
01.50	0084.8	0085.2	0085.5	0085.9	0086.2	0086.5	0086.9	0087.2	0087.6	0087.9
01.60	0088.3	0088.6	0089.0	0089.3	0089.7	0090.0	0090.3	0090.7	0091.0	0091.4
01.70	0091.7	0092.1	0092.4	0092.7	0093.1	0093.4	0093.8	0094.1	0094.5	0094.8
01.80	0095.2	0095.5	0095.8	0096.2	0096.5	0096.9	0097.2	0097.6	0097.9	0098.2
01.90	0098.6	0098.9	0099.3	0099.6	0100.0	0100.3	0100.6	0101.0	0101.3	0101.7
02.00	0102.0	0102.4	0102.7	0103.0	0103.4	0103.7	0104.1	0104.4	0104.7	0105.1
02.10	0105.4	0105.8	0106.1	0106.5	0106.8	0107.1	0107.5	0107.8	0108.2	0108.5
02.20	0108.8	0109.2	0109.5	0109.9	0110.2	0110.5	0110.9	0111.2	0111.6	0111.9
02.30	0112.3	0112.6	0112.9	0113.3	0113.6	0114.0	0114.3	0114.6	0115.0	0115.3
02.40	0115.7	0116.0	0116.3	0116.7	0117.0	0117.4	0117.7	0118.0	0118.4	0118.7

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
02.50	0119.1	0119.4	0119.7	0120.1	0120.4	0120.7	0121.1	0121.4	0121.8	0122.1
02.60	0122.4	0122.8	0123.1	0123.5	0123.8	0124.1	0124.5	0124.8	0125.2	0125.5
02.70	0125.8	0126.2	0126.5	0126.8	0127.2	0127.5	0127.9	0128.2	0128.5	0128.9
02.80	0129.2	0129.6	0129.9	0130.2	0130.6	0130.9	0131.2	0131.6	0131.9	0132.3
02.90	0132.6	0132.9	0133.3	0133.6	0133.9	0134.3	0134.6	0135.0	0135.3	0135.6
03.00	0136.0	0136.3	0136.6	0137.0	0137.3	0137.7	0138.0	0138.3	0138.7	0139.0
03.10	0139.3	0139.7	0140.0	0140.4	0140.7	0141.0	0141.4	0141.7	0142.0	0142.4
03.20	0142.7	0143.1	0143.4	0143.7	0144.1	0144.4	0144.7	0145.1	0145.4	0145.7
03.30	0146.1	0146.4	0146.8	0147.1	0147.4	0147.8	0148.1	0148.4	0148.8	0149.1
03.40	0149.4	0149.8	0150.1	0150.5	0150.8	0151.1	0151.5	0151.8	0152.1	0152.5
03.50	0152.8	0153.1	0153.5	0153.8	0154.1	0154.5	0154.8	0155.2	0155.5	0155.8
03.60	0156.2	0156.5	0156.8	0157.2	0157.5	0157.8	0158.2	0158.5	0158.8	0159.2
03.70	0159.5	0159.8	0160.2	0160.5	0160.9	0161.2	0161.5	0161.9	0162.2	0162.5
03.80	0162.9	0163.2	0163.5	0163.9	0164.2	0164.5	0164.9	0165.2	0165.5	0165.9
03.90	0166.2	0166.5	0166.9	0167.2	0167.6	0167.9	0168.2	0168.6	0168.9	0169.2
04.00	0169.6	0169.9	0170.2	0170.6	0170.9	0171.2	0171.6	0171.9	0172.2	0172.6
04.10	0172.9	0173.2	0173.6	0173.9	0174.2	0174.6	0174.9	0175.2	0175.6	0175.9
04.20	0176.2	0176.6	0176.9	0177.3	0177.6	0177.9	0178.3	0178.6	0178.9	0179.3
04.30	0179.6	0179.9	0180.3	0180.6	0180.9	0181.3	0181.6	0181.9	0182.3	0182.6
04.40	0182.9	0183.3	0183.6	0183.9	0184.3	0184.6	0184.9	0185.3	0185.6	0185.9
04.50	0186.3	0186.6	0186.9	0187.3	0187.6	0187.9	0188.3	0188.6	0188.9	0189.3
04.60	0189.6	0189.9	0190.3	0190.6	0190.9	0191.3	0191.6	0192.0	0192.3	0192.6
04.70	0193.0	0193.3	0193.6	0194.0	0194.3	0194.6	0195.0	0195.3	0195.6	0196.0
04.80	0196.3	0196.6	0197.0	0197.3	0197.6	0198.0	0198.3	0198.6	0199.0	0199.3
04.90	0199.6	0200.0	0200.3	0200.6	0201.0	0201.3	0201.6	0202.0	0202.3	0202.6
05.00	0203.0	0203.3	0203.6	0204.0	0204.3	0204.6	0205.0	0205.3	0205.6	0206.0
05.10	0206.3	0206.6	0207.0	0207.3	0207.6	0208.0	0208.3	0208.6	0209.0	0209.3
05.20	0209.6	0210.0	0210.3	0210.6	0211.0	0211.3	0211.6	0212.0	0212.3	0212.6
05.30	0213.0	0213.3	0213.7	0214.0	0214.3	0214.7	0215.0	0215.3	0215.7	0216.0
05.40	0216.3	0216.7	0217.0	0217.3	0217.7	0218.0	0218.3	0218.7	0219.0	0219.3
05.50	0219.7	0220.0	0220.3	0220.7	0221.0	0221.3	0221.7	0222.0	0222.3	0222.7
05.60	0223.0	0223.3	0223.7	0224.0	0224.3	0224.7	0225.0	0225.3	0225.7	0226.0
05.70	0226.4	0226.7	0227.0	0227.4	0227.7	0228.0	0228.4	0228.7	0229.0	0229.4
05.80	0229.7	0230.0	0230.4	0230.7	0231.0	0231.4	0231.7	0232.0	0232.4	0232.7
05.90	0233.0	0233.4	0233.7	0234.0	0234.4	0234.7	0235.1	0235.4	0235.7	0236.1
06.00	0236.4	0236.7	0237.1	0237.4	0237.7	0238.0	0238.4	0238.7	0239.0	0239.3
06.10	0239.7	0240.0	0240.3	0240.6	0241.0	0241.3	0241.6	0241.9	0242.3	0242.6
06.20	0242.9	0243.2	0243.6	0243.9	0244.2	0244.5	0244.9	0245.2	0245.5	0245.9
06.30	0246.2	0246.5	0246.8	0247.2	0247.5	0247.8	0248.1	0248.5	0248.8	0249.1
06.40	0249.4	0249.8	0250.1	0250.4	0250.7	0251.1	0251.4	0251.7	0252.0	0252.4
06.50	0252.7	0253.0	0253.3	0253.7	0254.0	0254.3	0254.6	0255.0	0255.3	0255.6
06.60	0255.9	0256.3	0256.6	0256.9	0257.2	0257.6	0257.9	0258.2	0258.5	0258.9
06.70	0259.2	0259.5	0259.8	0260.2	0260.5	0260.8	0261.1	0261.5	0261.8	0262.1
06.80	0262.4	0262.8	0263.1	0263.4	0263.7	0264.1	0264.4	0264.7	0265.0	0265.4
06.90	0265.7	0266.0	0266.3	0266.7	0267.0	0267.3	0267.6	0268.0	0268.3	0268.6
07.00	0268.9	0269.3	0269.6	0269.9	0270.2	0270.6	0270.9	0271.2	0271.5	0271.9
07.10	0272.2	0272.5	0272.8	0273.2	0273.5	0273.8	0274.1	0274.5	0274.8	0275.1
07.20	0275.4	0275.8	0276.1	0276.4	0276.7	0277.1	0277.4	0277.7	0278.0	0278.4
07.30	0278.7	0279.0	0279.3	0279.7	0280.0	0280.3	0280.6	0281.0	0281.3	0281.6
07.40	0281.9	0282.3	0282.6	0282.9	0283.2	0283.6	0283.9	0284.2	0284.5	0284.9

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
07.50	0285.2	0285.5	0285.9	0286.2	0286.5	0286.8	0287.2	0287.5	0287.8	0288.1
07.60	0288.5	0288.8	0289.1	0289.4	0289.8	0290.1	0290.4	0290.7	0291.1	0291.4
07.70	0291.7	0292.0	0292.4	0292.7	0293.0	0293.3	0293.7	0294.0	0294.3	0294.6
07.80	0295.0	0295.3	0295.6	0295.9	0296.3	0296.6	0296.9	0297.2	0297.6	0297.9
07.90	0298.2	0298.5	0298.9	0299.2	0299.5	0299.8	0300.2	0300.5	0300.8	0301.1
08.00	0301.5	0301.8	0302.1	0302.4	0302.8	0303.1	0303.4	0303.7	0304.1	0304.4
08.10	0304.7	0305.0	0305.4	0305.7	0306.0	0306.3	0306.7	0307.0	0307.3	0307.6
08.20	0308.0	0308.3	0308.6	0308.9	0309.3	0309.6	0309.9	0310.2	0310.6	0310.9
08.30	0311.2	0311.5	0311.9	0312.2	0312.5	0312.8	0313.2	0313.5	0313.8	0314.1
08.40	0314.5	0314.8	0315.1	0315.4	0315.8	0316.1	0316.4	0316.7	0317.1	0317.4
08.50	0317.7	0318.0	0318.4	0318.7	0319.0	0319.3	0319.7	0320.0	0320.3	0320.6
08.60	0321.0	0321.3	0321.6	0321.9	0322.3	0322.6	0322.9	0323.2	0323.6	0323.9
08.70	0324.2	0324.5	0324.9	0325.2	0325.5	0325.9	0326.2	0326.5	0326.8	0327.1
08.80	0327.5	0327.8	0328.1	0328.5	0328.8	0329.1	0329.4	0329.8	0330.1	0330.4
08.90	0330.7	0331.1	0331.4	0331.7	0332.0	0332.4	0332.7	0333.0	0333.3	0333.7
09.00	0334.0	0334.3	0334.6	0335.0	0335.3	0335.6	0335.9	0336.3	0336.6	0336.9
09.10	0337.2	0337.6	0337.9	0338.2	0338.5	0338.9	0339.2	0339.5	0339.8	0340.2
09.20	0340.5	0340.8	0341.1	0341.5	0341.8	0342.1	0342.4	0342.8	0343.1	0343.4
09.30	0343.7	0344.1	0344.4	0344.7	0345.0	0345.4	0345.7	0346.0	0346.3	0346.7
09.40	0347.0	0347.3	0347.6	0348.0	0348.3	0348.6	0348.9	0349.3	0349.6	0349.9
09.50	0350.2	0350.6	0350.9	0351.2	0351.5	0351.9	0352.2	0352.5	0352.8	0353.2
09.60	0353.5	0353.8	0354.1	0354.5	0354.8	0355.1	0355.4	0355.8	0356.1	0356.4
09.70	0356.7	0357.1	0357.4	0357.7	0358.0	0358.4	0358.7	0359.0	0359.3	0359.7
09.80	0360.0	0360.3	0360.6	0361.0	0361.3	0361.6	0361.9	0362.3	0362.6	0362.9
09.90	0363.2	0363.6	0363.9	0364.2	0364.5	0364.9	0365.2	0365.5	0365.8	0366.2
10.00	0366.5	0366.8	0367.1	0367.5	0367.8	0368.1	0368.5	0368.8	0369.1	0369.4
10.10	0369.8	0370.1	0370.4	0370.7	0371.1	0371.4	0371.7	0372.0	0372.4	0372.7
10.20	0373.0	0373.3	0373.7	0374.0	0374.3	0374.6	0375.0	0375.3	0375.6	0375.9
10.30	0376.3	0376.6	0376.9	0377.2	0377.6	0377.9	0378.2	0378.5	0378.9	0379.2
10.40	0379.5	0379.8	0380.2	0380.5	0380.8	0381.1	0381.5	0381.8	0382.1	0382.4
10.50	0382.8	0383.1	0383.4	0383.7	0384.1	0384.4	0384.7	0385.0	0385.4	0385.7
10.60	0386.0	0386.3	0386.7	0387.0	0387.3	0387.6	0388.0	0388.3	0388.6	0388.9
10.70	0389.3	0389.6	0389.9	0390.2	0390.6	0390.9	0391.2	0391.5	0391.9	0392.2
10.80	0392.5	0392.8	0393.2	0393.5	0393.8	0394.1	0394.5	0394.8	0395.1	0395.4
10.90	0395.8	0396.1	0396.4	0396.7	0397.1	0397.4	0397.7	0398.0	0398.4	0398.7
11.00	0399.0	0399.3	0399.7	0400.0	0400.3	0400.6	0401.0	0401.3	0401.6	0401.9
11.10	0402.3	0402.6	0402.9	0403.2	0403.6	0403.9	0404.2	0404.5	0404.9	0405.2
11.20	0405.5	0405.8	0406.2	0406.5	0406.8	0407.1	0407.5	0407.8	0408.1	0408.4
11.30	0408.8	0409.1	0409.4	0409.8	0410.1	0410.4	0410.7	0411.1	0411.4	0411.7
11.40	0412.0	0412.4	0412.7	0413.0	0413.3	0413.7	0414.0	0414.3	0414.6	0415.0
11.50	0415.3	0415.6	0415.9	0416.3	0416.6	0416.9	0417.2	0417.6	0417.9	0418.2
11.60	0418.5	0418.9	0419.2	0419.5	0419.8	0420.2	0420.5	0420.8	0421.1	0421.5
11.70	0421.8	0422.1	0422.4	0422.8	0423.1	0423.4	0423.7	0424.1	0424.4	0424.7
11.80	0425.0	0425.4	0425.7	0426.0	0426.3	0426.7	0427.0	0427.3	0427.6	0428.0
11.90	0428.3	0428.6	0428.9	0429.3	0429.6	0429.9	0430.2	0430.6	0430.9	0431.2
12.00	0431.5	0431.9	0432.2	0432.5	0432.8	0433.2	0433.5	0433.8	0434.1	0434.5
12.10	0434.8	0435.1	0435.4	0435.8	0436.1	0436.4	0436.7	0437.1	0437.4	0437.7
12.20	0438.0	0438.4	0438.7	0439.0	0439.3	0439.7	0440.0	0440.3	0440.6	0441.0
12.30	0441.3	0441.6	0441.9	0442.3	0442.6	0442.9	0443.2	0443.6	0443.9	0444.2
12.40	0444.5	0444.9	0445.2	0445.5	0445.8	0446.2	0446.5	0446.8	0447.1	0447.5

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
12.50	0447.8	0448.1	0448.4	0448.8	0449.1	0449.4	0449.8	0450.1	0450.4	0450.7
12.60	0451.1	0451.4	0451.7	0452.0	0452.4	0452.7	0453.0	0453.3	0453.7	0454.0
12.70	0454.3	0454.6	0455.0	0455.3	0455.6	0455.9	0456.3	0456.6	0456.9	0457.2
12.80	0457.6	0457.9	0458.2	0458.5	0458.9	0459.2	0459.5	0459.8	0460.2	0460.5
12.90	0460.8	0461.1	0461.5	0461.8	0462.1	0462.4	0462.8	0463.1	0463.4	0463.7
13.00	0464.1	0464.4	0464.7	0465.0	0465.4	0465.7	0466.0	0466.3	0466.7	0467.0
13.10	0467.3	0467.6	0468.0	0468.3	0468.6	0468.9	0469.3	0469.6	0469.9	0470.2
13.20	0470.6	0470.9	0471.2	0471.5	0471.9	0472.2	0472.5	0472.8	0473.2	0473.5
13.30	0473.8	0474.1	0474.5	0474.8	0475.1	0475.4	0475.8	0476.1	0476.4	0476.7
13.40	0477.1	0477.4	0477.7	0478.0	0478.4	0478.7	0479.0	0479.3	0479.7	0480.0
13.50	0480.3	0480.6	0481.0	0481.3	0481.6	0481.9	0482.3	0482.6	0482.9	0483.2
13.60	0483.6	0483.9	0484.2	0484.5	0484.9	0485.2	0485.5	0485.8	0486.2	0486.5
13.70	0486.8	0487.1	0487.5	0487.8	0488.1	0488.4	0488.8	0489.1	0489.4	0489.7
13.80	0490.1	0490.4	0490.7	0491.1	0491.4	0491.7	0492.0	0492.4	0492.7	0493.0
13.90	0493.3	0493.7	0494.0	0494.3	0494.6	0495.0	0495.3	0495.6	0495.9	0496.3
14.00	0496.6	0496.9	0497.2	0497.6	0497.9	0498.2	0498.5	0498.9	0499.2	0499.5
14.10	0499.8	0500.2	0500.5	0500.8	0501.1	0501.5	0501.8	0502.1	0502.4	0502.8
14.20	0503.1	0503.4	0503.7	0504.1	0504.4	0504.7	0505.0	0505.4	0505.7	0506.0
14.30	0506.3	0506.7	0507.0	0507.3	0507.6	0508.0	0508.3	0508.6	0508.9	0509.3
14.40	0509.6	0509.9	0510.2	0510.6	0510.9	0511.2	0511.5	0511.9	0512.2	0512.5
14.50	0512.8	0513.2	0513.5	0513.8	0514.1	0514.5	0514.8	0515.1	0515.4	0515.8
14.60	0516.1	0516.4	0516.7	0517.1	0517.4	0517.7	0518.0	0518.4	0518.7	0519.0
14.70	0519.3	0519.7	0520.0	0520.3	0520.6	0521.0	0521.3	0521.6	0521.9	0522.3
14.80	0522.6	0522.9	0523.2	0523.6	0523.9	0524.2	0524.5	0524.9	0525.2	0525.5
14.90	0525.8	0526.2	0526.5	0526.8	0527.1	0527.5	0527.8	0528.1	0528.4	0528.8
15.00	0529.1	0529.4	0529.7	0530.1	0530.4	0530.7	0531.1	0531.4	0531.7	0532.0
15.10	0532.4	0532.7	0533.0	0533.3	0533.7	0534.0	0534.3	0534.6	0535.0	0535.3
15.20	0535.6	0535.9	0536.3	0536.6	0536.9	0537.2	0537.6	0537.9	0538.2	0538.5
15.30	0538.9	0539.2	0539.5	0539.8	0540.2	0540.5	0540.8	0541.1	0541.5	0541.8
15.40	0542.1	0542.4	0542.8	0543.1	0543.4	0543.7	0544.1	0544.4	0544.7	0545.0
15.50	0545.4	0545.7	0546.0	0546.3	0546.7	0547.0	0547.3	0547.6	0548.0	0548.3
15.60	0548.6	0548.9	0549.3	0549.6	0549.9	0550.2	0550.6	0550.9	0551.2	0551.5
15.70	0551.9	0552.2	0552.5	0552.8	0553.2	0553.5	0553.8	0554.1	0554.5	0554.8
15.80	0555.1	0555.4	0555.8	0556.1	0556.4	0556.7	0557.1	0557.4	0557.7	0558.0
15.90	0558.4	0558.7	0559.0	0559.3	0559.7	0560.0	0560.3	0560.6	0561.0	0561.3
16.00	0561.6	0561.9	0562.3	0562.6	0562.9	0563.2	0563.6	0563.9	0564.2	0564.5
16.10	0564.9	0565.2	0565.5	0565.8	0566.2	0566.5	0566.8	0567.1	0567.5	0567.8
16.20	0568.1	0568.4	0568.8	0569.1	0569.4	0569.7	0570.1	0570.4	0570.7	0571.0
16.30	0571.4	0571.7	0572.0	0572.4	0572.7	0573.0	0573.3	0573.7	0574.0	0574.3
16.40	0574.6	0575.0	0575.3	0575.6	0575.9	0576.3	0576.6	0576.9	0577.2	0577.6
16.50	0577.9	0578.2	0578.5	0578.9	0579.2	0579.5	0579.8	0580.2	0580.5	0580.8
16.60	0581.1	0581.5	0581.8	0582.1	0582.4	0582.8	0583.1	0583.4	0583.7	0584.1
16.70	0584.4	0584.7	0585.0	0585.4	0585.7	0586.0	0586.3	0586.7	0587.0	0587.3
16.80	0587.6	0588.0	0588.3	0588.6	0588.9	0589.3	0589.6	0589.9	0590.2	0590.6
16.90	0590.9	0591.2	0591.5	0591.9	0592.2	0592.5	0592.8	0593.2	0593.5	0593.8
17.00	0594.1	0594.5	0594.8	0595.1	0595.4	0595.8	0596.1	0596.4	0596.7	0597.1
17.10	0597.4	0597.7	0598.0	0598.4	0598.7	0599.0	0599.3	0599.7	0600.0	0600.3
17.20	0600.6	0601.0	0601.3	0601.6	0601.9	0602.3	0602.6	0602.9	0603.2	0603.6
17.30	0603.9	0604.2	0604.5	0604.9	0605.2	0605.5	0605.8	0606.2	0606.5	0606.8
17.40	0607.1	0607.5	0607.8	0608.1	0608.4	0608.8	0609.1	0609.4	0609.7	0610.1

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
17.50	0610.4	0610.7	0611.0	0611.4	0611.7	0612.0	0612.4	0612.7	0613.0	0613.3
17.60	0613.7	0614.0	0614.3	0614.6	0615.0	0615.3	0615.6	0615.9	0616.3	0616.6
17.70	0616.9	0617.2	0617.6	0617.9	0618.2	0618.5	0618.9	0619.2	0619.5	0619.8
17.80	0620.2	0620.5	0620.8	0621.1	0621.5	0621.8	0622.1	0622.4	0622.8	0623.1
17.90	0623.4	0623.7	0624.1	0624.4	0624.7	0625.0	0625.4	0625.7	0626.0	0626.3
18.00	0626.7	0627.0	0627.3	0627.6	0628.0	0628.3	0628.6	0628.9	0629.3	0629.6
18.10	0629.9	0630.2	0630.6	0630.9	0631.2	0631.5	0631.9	0632.2	0632.5	0632.8
18.20	0633.2	0633.5	0633.8	0634.1	0634.5	0634.8	0635.1	0635.4	0635.8	0636.1
18.30	0636.4	0636.7	0637.1	0637.4	0637.7	0638.0	0638.4	0638.7	0639.0	0639.3
18.40	0639.7	0640.0	0640.3	0640.6	0641.0	0641.3	0641.6	0641.9	0642.3	0642.6
18.50	0642.9	0643.2	0643.6	0643.9	0644.2	0644.5	0644.9	0645.2	0645.5	0645.8
18.60	0646.2	0646.5	0646.8	0647.1	0647.5	0647.8	0648.1	0648.4	0648.8	0649.1
18.70	0649.4	0649.7	0650.1	0650.4	0650.7	0651.0	0651.4	0651.7	0652.0	0652.4
18.80	0652.7	0653.0	0653.3	0653.7	0654.0	0654.3	0654.6	0655.0	0655.3	0655.6
18.90	0655.9	0656.3	0656.6	0656.9	0657.2	0657.6	0657.9	0658.2	0658.5	0658.9
19.00	0659.2	0659.5	0659.8	0660.2	0660.5	0660.8	0661.1	0661.5	0661.8	0662.1
19.10	0662.4	0662.8	0663.1	0663.4	0663.7	0664.1	0664.4	0664.7	0665.0	0665.4
19.20	0665.7	0666.0	0666.3	0666.7	0667.0	0667.3	0667.6	0668.0	0668.3	0668.6
19.30	0668.9	0669.3	0669.6	0669.9	0670.2	0670.6	0670.9	0671.2	0671.5	0671.9
19.40	0672.2	0672.5	0672.8	0673.2	0673.5	0673.8	0674.1	0674.5	0674.8	0675.1
19.50	0675.4	0675.8	0676.1	0676.4	0676.7	0677.1	0677.4	0677.7	0678.0	0678.4
19.60	0678.7	0679.0	0679.3	0679.7	0680.0	0680.3	0680.6	0681.0	0681.3	0681.6
19.70	0681.9	0682.3	0682.6	0682.9	0683.2	0683.6	0683.9	0684.2	0684.5	0684.9
19.80	0685.2	0685.5	0685.8	0686.2	0686.5	0686.8	0687.1	0687.5	0687.8	0688.1
19.90	0688.4	0688.8	0689.1	0689.4	0689.7	0690.1	0690.4	0690.7	0691.0	0691.4
20.00	0691.7	0692.0	0692.3	0692.7	0693.0	0693.3	0693.7	0694.0	0694.3	0694.6
20.10	0695.0	0695.3	0695.6	0695.9	0696.3	0696.6	0696.9	0697.2	0697.6	0697.9
20.20	0698.2	0698.5	0698.9	0699.2	0699.5	0699.8	0700.2	0700.5	0700.8	0701.1
20.30	0701.5	0701.8	0702.1	0702.4	0702.8	0703.1	0703.4	0703.7	0704.1	0704.4
20.40	0704.7	0705.0	0705.4	0705.7	0706.0	0706.3	0706.7	0707.0	0707.3	0707.6
20.50	0708.0	0708.3	0708.6	0708.9	0709.3	0709.6	0709.9	0710.2	0710.6	0710.9
20.60	0711.2	0711.5	0711.9	0712.2	0712.5	0712.8	0713.2	0713.5	0713.8	0714.1
20.70	0714.5	0714.8	0715.1	0715.4	0715.8	0716.1	0716.4	0716.7	0717.1	0717.4
20.80	0717.7	0718.0	0718.4	0718.7	0719.0	0719.3	0719.7	0720.0	0720.3	0720.6
20.90	0721.0	0721.3	0721.6	0721.9	0722.3	0722.6	0722.9	0723.2	0723.6	0723.9
21.00	0724.2	0724.5	0724.9	0725.2	0725.5	0725.8	0726.2	0726.5	0726.8	0727.1
21.10	0727.5	0727.8	0728.1	0728.4	0728.8	0729.1	0729.4	0729.7	0730.1	0730.4
21.20	0730.7	0731.0	0731.4	0731.7	0732.0	0732.3	0732.7	0733.0	0733.3	0733.6
21.30	0734.0	0734.3	0734.6	0735.0	0735.3	0735.6	0735.9	0736.3	0736.6	0736.9
21.40	0737.2	0737.6	0737.9	0738.2	0738.5	0738.9	0739.2	0739.5	0739.8	0740.2
21.50	0740.5	0740.8	0741.1	0741.5	0741.8	0742.1	0742.4	0742.8	0743.1	0743.4
21.60	0743.7	0744.1	0744.4	0744.7	0745.0	0745.4	0745.7	0746.0	0746.3	0746.7
21.70	0747.0	0747.3	0747.6	0748.0	0748.3	0748.6	0748.9	0749.3	0749.6	0749.9
21.80	0750.2	0750.6	0750.9	0751.2	0751.5	0751.9	0752.2	0752.5	0752.8	0753.2
21.90	0753.5	0753.8	0754.1	0754.5	0754.8	0755.1	0755.4	0755.8	0756.1	0756.4
22.00	0756.7	0757.1	0757.4	0757.8	0758.1	0758.4	0758.8	0759.1	0759.4	0759.8
22.10	0760.2	0760.6	0760.9	0761.2	0761.6	0761.9	0762.2	0762.5	0762.9	0763.2
22.20	0763.5	0763.8	0764.2	0764.5	0764.8	0765.1	0765.5	0765.8	0766.1	0766.4
22.30	0766.8	0767.1	0767.4	0767.7	0768.1	0768.4	0768.7	0769.0	0769.4	0769.7
22.40	0770.0	0770.3	0770.7	0771.0	0771.3	0771.6	0771.9	0772.3	0772.6	0772.9

Temperature, °F



TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
22.50	0773.3	0773.6	0773.9	0774.2	0774.6	0774.9	0775.2	0775.5	0775.9	0776.2
22.60	0776.5	0776.8	0777.2	0777.5	0777.8	0778.2	0778.5	0778.8	0779.1	0779.5
22.70	0779.8	0780.1	0780.4	0780.8	0781.1	0781.4	0781.7	0782.1	0782.4	0782.7
22.80	0783.0	0783.4	0783.7	0784.0	0784.3	0784.7	0785.0	0785.3	0785.6	0786.0
22.90	0786.3	0786.6	0786.9	0787.3	0787.6	0787.9	0788.2	0788.6	0788.9	0789.2
23.00	0789.5	0789.9	0790.2	0790.5	0790.8	0791.2	0791.5	0791.8	0792.1	0792.5
23.10	0792.8	0793.1	0793.4	0793.8	0794.1	0794.4	0794.8	0795.1	0795.4	0795.7
23.20	0796.1	0796.4	0796.7	0797.0	0797.4	0797.7	0798.0	0798.3	0798.7	0799.0
23.30	0799.3	0799.6	0800.0	0800.3	0800.6	0800.9	0801.3	0801.6	0801.9	0802.2
23.40	0802.6	0802.9	0803.2	0803.5	0803.9	0804.2	0804.5	0804.8	0805.2	0805.5
23.50	0805.8	0806.1	0806.5	0806.8	0807.1	0807.4	0807.8	0808.1	0808.4	0808.7
23.60	0809.1	0809.4	0809.7	0810.0	0810.4	0810.7	0811.0	0811.3	0811.7	0812.0
23.70	0812.3	0812.7	0813.0	0813.3	0813.6	0814.0	0814.3	0814.6	0814.9	0815.3
23.80	0815.6	0815.9	0816.2	0816.6	0816.9	0817.2	0817.5	0817.9	0818.2	0818.5
23.90	0818.8	0819.2	0819.5	0819.8	0820.1	0820.5	0820.8	0821.1	0821.4	0821.8
24.00	0822.1	0822.4	0822.7	0823.1	0823.4	0823.7	0824.0	0824.4	0824.7	0825.0
24.10	0825.3	0825.7	0826.0	0826.3	0826.6	0827.0	0827.3	0827.6	0827.9	0828.3
24.20	0828.6	0828.9	0829.2	0829.6	0829.9	0830.2	0830.5	0830.9	0831.2	0831.5
24.30	0831.8	0832.2	0832.5	0832.8	0833.1	0833.5	0833.8	0834.1	0834.4	0834.8
24.40	0835.1	0835.4	0835.7	0836.1	0836.4	0836.7	0837.0	0837.4	0837.7	0838.0
24.50	0838.3	0838.7	0839.0	0839.3	0839.6	0840.0	0840.3	0840.6	0840.9	0841.3
24.60	0841.6	0841.9	0842.2	0842.6	0842.9	0843.2	0843.5	0843.9	0844.2	0844.5
24.70	0844.8	0845.2	0845.5	0845.8	0846.1	0846.5	0846.8	0847.1	0847.4	0847.8
24.80	0848.1	0848.4	0848.7	0849.1	0849.4	0849.7	0850.0	0850.4	0850.7	0851.0
24.90	0851.3	0851.7	0852.0	0852.3	0852.6	0853.0	0853.3	0853.6	0853.9	0854.3
25.00	0854.6	0854.9	0855.2	0855.6	0855.9	0856.2	0856.5	0856.9	0857.2	0857.5
25.10	0857.8	0858.2	0858.5	0858.8	0859.1	0859.5	0859.8	0860.1	0860.4	0860.8
25.20	0861.1	0861.4	0861.7	0862.0	0862.4	0862.7	0863.0	0863.3	0863.7	0864.0
25.30	0864.3	0864.6	0865.0	0865.3	0865.6	0865.9	0866.3	0866.6	0866.9	0867.2
25.40	0867.6	0867.9	0868.2	0868.5	0868.9	0869.2	0869.5	0869.8	0870.2	0870.5
25.50	0870.8	0871.1	0871.5	0871.8	0872.1	0872.4	0872.8	0873.1	0873.4	0873.7
25.60	0874.0	0874.4	0874.7	0875.0	0875.3	0875.7	0876.0	0876.3	0876.6	0877.0
25.70	0877.3	0877.6	0877.9	0878.3	0878.6	0878.9	0879.2	0879.6	0879.9	0880.2
25.80	0880.5	0880.9	0881.2	0881.5	0881.8	0882.1	0882.5	0882.8	0883.1	0883.4
25.90	0883.8	0884.1	0884.4	0884.7	0885.1	0885.4	0885.7	0886.0	0886.4	0886.7
26.00	0887.0	0887.3	0887.6	0888.0	0888.3	0888.6	0888.9	0889.3	0889.6	0889.9
26.10	0890.2	0890.6	0890.9	0891.2	0891.5	0891.9	0892.2	0892.5	0892.8	0893.1
26.20	0893.5	0893.8	0894.1	0894.4	0894.8	0895.1	0895.4	0895.7	0896.1	0896.4
26.30	0896.7	0897.0	0897.4	0897.7	0898.0	0898.3	0898.6	0899.0	0899.3	0899.6
26.40	0899.9	0900.3	0900.6	0900.9	0901.2	0901.6	0901.9	0902.2	0902.5	0902.8
26.50	0903.2	0903.5	0903.8	0904.1	0904.5	0904.8	0905.1	0905.4	0905.8	0906.1
26.60	0906.4	0906.7	0907.0	0907.4	0907.7	0908.0	0908.3	0908.7	0909.0	0909.3
26.70	0909.6	0909.9	0910.3	0910.6	0910.9	0911.2	0911.6	0911.9	0912.2	0912.5
26.80	0912.9	0913.2	0913.5	0913.8	0914.1	0914.5	0914.8	0915.1	0915.4	0915.8
26.90	0916.1	0916.4	0916.7	0917.0	0917.4	0917.7	0918.0	0918.3	0918.7	0919.0
27.00	0919.3	0919.6	0919.9	0920.3	0920.6	0920.9	0921.2	0921.6	0921.9	0922.2
27.10	0922.5	0922.8	0923.2	0923.5	0923.8	0924.1	0924.5	0924.8	0925.1	0925.4
27.20	0925.7	0926.1	0926.4	0926.7	0927.0	0927.4	0927.7	0928.0	0928.3	0928.6
27.30	0929.0	0929.3	0929.6	0929.9	0930.2	0930.6	0930.9	0931.2	0931.5	0931.9
27.40	0932.2	0932.5	0932.8	0933.1	0933.5	0933.8	0934.1	0934.4	0934.8	0935.1

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
27.50	0935.4	0935.7	0936.0	0936.4	0936.7	0937.0	0937.3	0937.6	0938.0	0938.3
27.60	0938.6	0938.9	0939.2	0939.6	0939.9	0940.2	0940.5	0940.9	0941.2	0941.5
27.70	0941.8	0942.1	0942.5	0942.8	0943.1	0943.4	0943.7	0944.1	0944.4	0944.7
27.80	0945.0	0945.3	0945.7	0946.0	0946.3	0946.6	0947.0	0947.3	0947.6	0947.9
27.90	0948.2	0948.6	0948.9	0949.2	0949.5	0949.8	0950.2	0950.5	0950.8	0951.1
28.00	0951.4	0951.8	0952.1	0952.4	0952.7	0953.0	0953.4	0953.7	0954.0	0954.3
28.10	0954.6	0955.0	0955.3	0955.6	0955.9	0956.2	0956.6	0956.9	0957.2	0957.5
28.20	0957.8	0958.2	0958.5	0958.8	0959.1	0959.4	0959.8	0960.1	0960.4	0960.7
28.30	0961.0	0961.4	0961.7	0962.0	0962.3	0962.6	0963.0	0963.3	0963.6	0963.9
28.40	0964.2	0964.6	0964.9	0965.2	0965.5	0965.8	0966.2	0966.5	0966.8	0967.1
28.50	0967.4	0967.8	0968.1	0968.4	0968.7	0969.0	0969.4	0969.7	0970.0	0970.3
28.60	0970.6	0971.0	0971.3	0971.6	0971.9	0972.2	0972.6	0972.9	0973.2	0973.5
28.70	0973.8	0974.1	0974.5	0974.8	0975.1	0975.4	0975.7	0976.1	0976.4	0976.7
28.80	0977.0	0977.3	0977.7	0978.0	0978.3	0978.6	0978.9	0979.2	0979.6	0979.9
28.90	0980.2	0980.5	0980.8	0981.2	0981.5	0981.8	0982.1	0982.4	0982.8	0983.1
29.00	0983.4	0983.7	0984.0	0984.3	0984.7	0985.0	0985.3	0985.6	0985.9	0986.3
29.10	0986.6	0986.9	0987.2	0987.5	0987.8	0988.2	0988.5	0988.8	0989.1	0989.4
29.20	0989.8	0990.1	0990.4	0990.7	0991.0	0991.3	0991.7	0992.0	0992.3	0992.6
29.30	0992.9	0993.2	0993.6	0993.9	0994.2	0994.5	0994.8	0995.2	0995.5	0995.8
29.40	0996.1	0996.4	0996.7	0997.1	0997.4	0997.7	0998.0	0998.3	0998.6	0999.0
29.50	0999.3	0999.6	0999.9	1000.2	1000.5	1000.9	1001.2	1001.5	1001.8	1002.1
29.60	1002.4	1002.8	1003.1	1003.4	1003.7	1004.0	1004.3	1004.7	1005.0	1005.3
29.70	1005.6	1005.9	1006.2	1006.6	1006.9	1007.2	1007.5	1007.8	1008.1	1008.5
29.80	1008.8	1009.1	1009.4	1009.7	1010.0	1010.4	1010.7	1011.0	1011.3	1011.6
29.90	1011.9	1012.3	1012.6	1012.9	1013.2	1013.5	1013.8	1014.2	1014.5	1014.8
30.00	1015.1	1015.4	1015.7	1016.0	1016.4	1016.7	1017.0	1017.3	1017.6	1017.9
30.10	1018.3	1018.6	1018.9	1019.2	1019.5	1019.8	1020.2	1020.5	1020.8	1021.1
30.20	1021.4	1021.7	1022.0	1022.4	1022.7	1023.0	1023.3	1023.6	1023.9	1024.2
30.30	1024.6	1024.9	1025.2	1025.5	1025.8	1026.1	1026.5	1026.8	1027.1	1027.4
30.40	1027.7	1028.0	1028.3	1028.7	1029.0	1029.3	1029.6	1029.9	1030.2	1030.5
30.50	1030.9	1031.2	1031.5	1031.8	1032.1	1032.4	1032.7	1033.1	1033.4	1033.7
30.60	1034.0	1034.3	1034.6	1034.9	1035.3	1035.6	1035.9	1036.2	1036.5	1036.8
30.70	1037.1	1037.5	1037.8	1038.1	1038.4	1038.7	1039.0	1039.3	1039.7	1040.0
30.80	1040.3	1040.6	1040.9	1041.2	1041.5	1041.8	1042.2	1042.5	1042.8	1043.1
30.90	1043.4	1043.7	1044.0	1044.4	1044.7	1045.0	1045.3	1045.6	1045.9	1046.2
31.00	1046.5	1046.9	1047.2	1047.5	1047.8	1048.1	1048.4	1048.7	1049.0	1049.4
31.10	1049.7	1050.0	1050.3	1050.6	1050.9	1051.2	1051.5	1051.9	1052.2	1052.5
31.20	1052.8	1053.1	1053.4	1053.7	1054.0	1054.4	1054.7	1055.0	1055.3	1055.6
31.30	1055.9	1056.2	1056.5	1056.9	1057.2	1057.5	1057.8	1058.1	1058.4	1058.7
31.40	1059.0	1059.3	1059.7	1060.0	1060.3	1060.6	1060.9	1061.2	1061.5	1061.8
31.50	1062.1	1062.5	1062.8	1063.1	1063.4	1063.7	1064.0	1064.3	1064.6	1064.9
31.60	1065.3	1065.6	1065.9	1066.2	1066.5	1066.8	1067.1	1067.4	1067.7	1068.1
31.70	1068.4	1068.7	1069.0	1069.3	1069.6	1069.9	1070.2	1070.5	1070.9	1071.2
31.80	1071.5	1071.8	1072.1	1072.4	1072.7	1073.0	1073.3	1073.6	1074.0	1074.3
31.90	1074.6	1074.9	1075.2	1075.5	1075.8	1076.1	1076.4	1076.7	1077.1	1077.4
32.00	1077.7	1078.0	1078.3	1078.6	1078.9	1079.2	1079.5	1079.8	1080.1	1080.5
32.10	1080.8	1081.1	1081.4	1081.7	1082.0	1082.3	1082.6	1082.9	1083.2	1083.5
32.20	1083.9	1084.2	1084.5	1084.8	1085.1	1085.4	1085.7	1086.0	1086.3	1086.6
32.30	1086.9	1087.3	1087.6	1087.9	1088.2	1088.5	1088.8	1089.1	1089.4	1089.7
32.40	1090.0	1090.3	1090.6	1091.0	1091.3	1091.6	1091.9	1092.2	1092.5	1092.8

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
32.50	1093.1	1093.4	1093.7	1094.0	1094.3	1094.6	1095.0	1095.3	1095.6	1095.9
32.60	1096.2	1096.5	1096.8	1097.1	1097.4	1097.7	1098.0	1098.3	1098.6	1099.0
32.70	1099.3	1099.6	1099.9	1100.0	1100.3	1100.6	1101.0	1101.3	1101.6	1101.9
32.80	1102.2	1102.5	1102.8	1103.1	1103.5	1103.8	1104.1	1104.4	1104.7	1105.0
32.90	1105.3	1105.6	1106.0	1106.3	1106.6	1106.9	1107.2	1107.5	1107.8	1108.1
33.00	1108.4	1108.8	1109.1	1109.4	1109.7	1110.0	1110.3	1110.6	1110.9	1111.2
33.10	1111.6	1111.9	1112.2	1112.5	1112.8	1113.1	1113.4	1113.7	1114.0	1114.4
33.20	1114.7	1115.0	1115.3	1115.6	1115.9	1116.2	1116.5	1116.8	1117.1	1117.5
33.30	1117.8	1118.1	1118.4	1118.7	1119.0	1119.3	1119.6	1119.9	1120.2	1120.6
33.40	1120.9	1121.2	1121.5	1121.8	1122.1	1122.4	1122.7	1123.0	1123.3	1123.6
33.50	1124.0	1124.3	1124.6	1124.9	1125.2	1125.5	1125.8	1126.1	1126.4	1126.7
33.60	1127.0	1127.3	1127.7	1128.0	1128.3	1128.6	1128.9	1129.2	1129.5	1129.8
33.70	1130.1	1130.4	1130.7	1131.0	1131.3	1131.7	1132.0	1132.3	1132.6	1132.9
33.80	1133.2	1133.5	1133.8	1134.1	1134.4	1134.7	1135.0	1135.3	1135.6	1136.0
33.90	1136.3	1136.6	1136.9	1137.2	1137.5	1137.8	1138.1	1138.4	1138.7	1139.0
34.00	1139.3	1139.6	1139.9	1140.2	1140.6	1140.9	1141.2	1141.5	1141.8	1142.1
34.10	1142.4	1142.7	1143.0	1143.3	1143.6	1143.9	1144.2	1144.5	1144.8	1145.1
34.20	1145.4	1145.7	1146.1	1146.4	1146.7	1147.0	1147.3	1147.6	1147.9	1148.2
34.30	1148.5	1148.8	1149.1	1149.4	1149.7	1150.0	1150.3	1150.6	1150.9	1151.2
34.40	1151.5	1151.8	1152.1	1152.5	1152.8	1153.1	1153.4	1153.7	1154.0	1154.3
34.50	1154.6	1154.9	1155.2	1155.5	1155.8	1156.1	1156.4	1156.7	1157.0	1157.3
34.60	1157.6	1157.9	1158.2	1158.5	1158.8	1159.1	1159.4	1159.7	1160.0	1160.3
34.70	1160.7	1161.0	1161.3	1161.6	1161.9	1162.2	1162.5	1162.8	1163.1	1163.4
34.80	1163.7	1164.0	1164.3	1164.6	1164.9	1165.2	1165.5	1165.8	1166.1	1166.4
34.90	1166.7	1167.0	1167.3	1167.6	1167.9	1168.2	1168.5	1168.8	1169.1	1169.4
35.00	1169.7	1170.0	1170.3	1170.6	1170.9	1171.2	1171.5	1171.8	1172.1	1172.4
35.10	1172.7	1173.0	1173.3	1173.6	1173.9	1174.2	1174.5	1174.8	1175.1	1175.4
35.20	1175.7	1176.0	1176.3	1176.7	1177.0	1177.3	1177.6	1177.9	1178.2	1178.5
35.30	1178.8	1179.1	1179.4	1179.7	1180.0	1180.3	1180.6	1180.9	1181.2	1181.5
35.40	1181.8	1182.1	1182.4	1182.7	1183.0	1183.3	1183.6	1183.9	1184.2	1184.5
35.50	1184.8	1185.1	1185.4	1185.7	1186.0	1186.3	1186.6	1186.8	1187.1	1187.4
35.60	1187.7	1188.0	1188.3	1188.6	1188.9	1189.2	1189.5	1189.8	1190.1	1190.4
35.70	1190.7	1191.0	1191.3	1191.6	1191.9	1192.2	1192.5	1192.8	1193.1	1193.4
35.80	1193.7	1194.0	1194.3	1194.6	1194.9	1195.2	1195.5	1195.8	1196.1	1196.4
35.90	1196.7	1197.0	1197.3	1197.6	1197.9	1198.2	1198.5	1198.8	1199.1	1199.4
36.00	1199.7	1200.0	1200.3	1200.6	1200.9	1201.2	1201.5	1201.8	1202.1	1202.4
36.10	1202.7	1203.0	1203.2	1203.5	1203.8	1204.1	1204.4	1204.7	1205.0	1205.3
36.20	1205.6	1205.9	1206.2	1206.5	1206.8	1207.1	1207.4	1207.7	1208.0	1208.3
36.30	1208.6	1208.9	1209.2	1209.5	1209.8	1210.1	1210.4	1210.7	1211.0	1211.3
36.40	1211.6	1211.8	1212.1	1212.4	1212.7	1213.0	1213.3	1213.6	1213.9	1214.2
36.50	1214.5	1214.8	1215.1	1215.4	1215.7	1216.0	1216.3	1216.6	1216.9	1217.2
36.60	1217.5	1217.8	1218.1	1218.4	1218.6	1218.9	1219.2	1219.5	1219.8	1220.1
36.70	1220.4	1220.7	1221.0	1221.3	1221.6	1221.9	1222.2	1222.5	1222.8	1223.1
36.80	1223.4	1223.7	1224.0	1224.2	1224.5	1224.8	1225.1	1225.4	1225.7	1226.0
36.90	1226.3	1226.6	1226.9	1227.2	1227.5	1227.8	1228.1	1228.4	1228.7	1229.0
37.00	1229.2	1229.5	1229.8	1230.1	1230.4	1230.7	1231.0	1231.3	1231.6	1231.9
37.10	1232.2	1232.5	1232.8	1233.1	1233.4	1233.7	1233.9	1234.2	1234.5	1234.8
37.20	1235.1	1235.4	1235.7	1236.0	1236.3	1236.6	1236.9	1237.2	1237.5	1237.8
37.30	1238.0	1238.3	1238.6	1238.9	1239.2	1239.5	1239.8	1240.1	1240.4	1240.7
37.40	1241.0	1241.3	1241.6	1241.9	1242.1	1242.4	1242.7	1243.0	1243.3	1243.6

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, $32^{\circ}\text{F}$									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
37.50	1243.9	1244.2	1244.5	1244.8	1245.1	1245.4	1245.6	1245.9	1246.2	1246.5
37.60	1246.8	1247.1	1247.4	1247.7	1248.0	1248.3	1248.6	1248.9	1249.2	1249.4
37.70	1249.7	1250.0	1250.3	1250.6	1250.9	1251.2	1251.5	1251.8	1252.1	1252.4
37.80	1252.6	1252.9	1253.2	1253.5	1253.8	1254.1	1254.4	1254.7	1255.0	1255.3
37.90	1255.6	1255.8	1256.1	1256.4	1256.7	1257.0	1257.3	1257.6	1257.9	1258.2
38.00	1258.5	1258.8	1259.0	1259.3	1259.6	1259.9	1260.2	1260.5	1260.8	1261.1
38.10	1261.4	1261.7	1262.0	1262.2	1262.5	1262.8	1263.1	1263.4	1263.7	1264.0
38.20	1264.3	1264.6	1264.9	1265.1	1265.4	1265.7	1266.0	1266.3	1266.6	1266.9
38.30	1267.2	1267.5	1267.7	1268.0	1268.3	1268.6	1268.9	1269.2	1269.5	1269.8
38.40	1270.1	1270.4	1270.6	1270.9	1271.2	1271.5	1271.8	1272.1	1272.4	1272.7
38.50	1273.0	1273.2	1273.5	1273.8	1274.1	1274.4	1274.7	1275.0	1275.3	1275.6
38.60	1275.8	1276.1	1276.4	1276.7	1277.0	1277.3	1277.6	1277.9	1278.2	1278.4
38.70	1278.7	1279.0	1279.3	1279.6	1279.9	1280.2	1280.5	1280.8	1281.0	1281.3
38.80	1281.6	1281.9	1282.2	1282.5	1282.8	1283.1	1283.3	1283.6	1283.9	1284.2
38.90	1284.5	1284.8	1285.1	1285.4	1285.7	1285.9	1286.2	1286.5	1286.8	1287.1
39.00	1287.4	1287.7	1288.0	1288.2	1288.5	1288.8	1289.1	1289.4	1289.7	1290.0
39.10	1290.3	1290.5	1290.8	1291.1	1291.4	1291.7	1292.0	1292.3	1292.6	1292.8
39.20	1293.1	1293.4	1293.7	1294.0	1294.3	1294.6	1294.9	1295.1	1295.4	1295.7
39.30	1296.0	1296.3	1296.6	1296.9	1297.2	1297.4	1297.7	1298.0	1298.3	1298.6
39.40	1298.9	1299.2	1299.4	1299.7	1300.0	1300.3	1300.6	1300.9	1301.2	1301.5
39.50	1301.7	1302.0	1302.3	1302.6	1302.9	1303.2	1303.5	1303.7	1304.0	1304.3
39.60	1304.6	1304.9	1305.2	1305.5	1305.7	1306.0	1306.3	1306.6	1306.9	1307.2
39.70	1307.5	1307.8	1308.0	1308.3	1308.6	1308.9	1309.2	1309.5	1309.8	1310.0
39.80	1310.3	1310.6	1310.9	1311.2	1311.5	1311.8	1312.0	1312.3	1312.6	1312.9
39.90	1313.2	1313.5	1313.8	1314.0	1314.3	1314.6	1314.9	1315.2	1315.5	1315.8
40.00	1316.0	1316.3	1316.6	1316.9	1317.2	1317.5	1317.8	1318.0	1318.3	1318.6
40.10	1318.9	1319.2	1319.5	1319.7	1320.0	1320.3	1320.6	1320.9	1321.2	1321.5
40.20	1321.7	1322.0	1322.3	1322.6	1322.9	1323.2	1323.5	1323.7	1324.0	1324.3
40.30	1324.6	1324.9	1325.2	1325.4	1325.7	1326.0	1326.3	1326.6	1326.9	1327.2
40.40	1327.4	1327.7	1328.0	1328.3	1328.6	1328.9	1329.1	1329.4	1329.7	1330.0
40.50	1330.3	1330.6	1330.9	1331.1	1331.4	1331.7	1332.0	1332.3	1332.6	1332.8
40.60	1333.1	1333.4	1333.7	1334.0	1334.3	1334.5	1334.8	1335.1	1335.4	1335.7
40.70	1336.0	1336.3	1336.5	1336.8	1337.1	1337.4	1337.7	1338.0	1338.2	1338.5
40.80	1338.8	1339.1	1339.4	1339.7	1339.9	1340.2	1340.5	1340.8	1341.1	1341.4
40.90	1341.6	1341.9	1342.2	1342.5	1342.8	1343.1	1343.3	1343.6	1343.9	1344.2
41.00	1344.5	1344.8	1345.0	1345.3	1345.6	1345.9	1346.2	1346.5	1346.7	1347.0
41.10	1347.3	1347.6	1347.9	1348.2	1348.4	1348.7	1349.0	1349.3	1349.6	1349.9
41.20	1350.1	1350.4	1350.7	1351.0	1351.3	1351.6	1351.8	1352.1	1352.4	1352.7
41.30	1353.0	1353.3	1353.5	1353.8	1354.1	1354.4	1354.7	1355.0	1355.2	1355.5
41.40	1355.8	1356.1	1356.4	1356.7	1356.9	1357.2	1357.5	1357.8	1358.1	1358.4
41.50	1358.6	1358.9	1359.2	1359.5	1359.8	1360.1	1360.3	1360.6	1360.9	1361.2
41.60	1361.5	1361.7	1362.0	1362.3	1362.6	1362.9	1363.2	1363.4	1363.7	1364.0
41.70	1364.3	1364.6	1364.9	1365.1	1365.4	1365.7	1366.0	1366.3	1366.5	1366.8
41.80	1367.1	1367.4	1367.7	1368.0	1368.2	1368.5	1368.8	1369.1	1369.4	1369.7
41.90	1369.9	1370.2	1370.5	1370.8	1371.1	1371.3	1371.6	1371.9	1372.2	1372.5
42.00	1372.8	1373.0	1373.3	1373.6	1373.9	1374.2	1374.5	1374.7	1375.0	1375.3
42.10	1375.6	1375.9	1376.1	1376.4	1376.7	1377.0	1377.2	1377.5	1377.8	1378.1
42.20	1378.4	1378.7	1379.0	1379.2	1379.5	1379.8	1380.1	1380.4	1380.7	1381.0
42.30	1381.2	1381.5	1381.8	1382.1	1382.3	1382.6	1382.9	1383.1	1383.4	1383.7
42.40	1384.0	1384.3	1384.6	1384.9	1385.2	1385.4	1385.7	1385.9	1386.2	1386.5

Temperature,  $^{\circ}\text{F}$

TABLE 3 IRON-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
42.50	1386.8	1387.1	1387.4	1387.7	1388.0	1388.3	1388.5	1388.8	1389.1	1389.4
42.60	1389.7	1389.9	1390.2	1390.5	1390.8	1391.1	1391.3	1391.6	1391.9	1392.2
42.70	1392.5	1392.6	1393.0	1393.3	1393.6	1393.9	1394.2	1394.4	1394.7	1395.0
42.80	1395.3	1395.6	1395.8	1396.1	1396.4	1396.7	1397.0	1397.3	1397.5	1397.9
42.90	1398.1	1398.4	1398.7	1398.9	1399.2	1399.5	1399.8	1400.1	1400.3	1400.6
43.00	1400.9	1401.2	1401.5	1401.8	1402.0	1402.3	1402.6	1402.9	1403.2	1403.4
43.10	1403.7	1404.0	1404.3	1404.6	1404.8	1405.1	1405.4	1405.7	1406.0	1406.2
43.20	1406.5	1406.8	1407.1	1407.4	1407.7	1407.9	1408.2	1408.5	1408.8	1409.1
43.30	1409.3	1409.6	1409.9	1410.2	1410.5	1410.7	1411.0	1411.3	1411.6	1411.9
43.40	1412.1	1412.4	1412.7	1413.0	1413.3	1413.6	1413.8	1414.1	1414.4	1414.7
43.50	1415.0	1415.2	1415.5	1415.8	1416.1	1416.4	1416.6	1416.9	1417.2	1417.5
43.60	1417.8	1418.0	1418.3	1418.6	1418.9	1419.2	1419.4	1419.7	1420.0	1420.3
43.70	1420.6	1420.8	1421.1	1421.4	1421.7	1422.0	1422.3	1422.5	1422.8	1423.1
43.80	1423.4	1423.7	1423.9	1424.2	1424.5	1424.8	1425.1	1425.3	1425.6	1425.9
43.90	1426.2	1426.5	1426.7	1427.0	1427.3	1427.6	1427.9	1428.1	1428.4	1428.7
44.00	1429.0	1429.3	1429.5	1429.8	1430.1	1430.4	1430.7	1430.9	1431.2	1431.5
44.10	1431.8	1432.1	1432.4	1432.6	1432.9	1433.2	1433.5	1433.8	1434.0	1434.3
44.20	1434.6	1434.9	1435.2	1435.4	1435.7	1436.0	1436.3	1436.6	1436.8	1437.1
44.30	1437.4	1437.7	1438.0	1438.2	1438.5	1438.8	1439.1	1439.4	1439.6	1439.9
44.40	1440.2	1440.5	1440.8	1441.0	1441.3	1441.6	1441.9	1442.2	1442.4	1442.7
44.50	1443.0	1443.3	1443.6	1443.8	1444.1	1444.4	1444.7	1445.0	1445.2	1445.5
44.60	1445.8	1446.1	1446.4	1446.6	1446.9	1447.2	1447.5	1447.8	1448.1	1448.3
44.70	1448.6	1448.9	1449.2	1449.5	1449.7	1450.0	1450.3	1450.6	1450.9	1451.1
44.80	1451.4	1451.7	1452.0	1452.3	1452.5	1452.8	1453.1	1453.4	1453.7	1453.9
44.90	1454.2	1454.5	1454.8	1455.1	1455.3	1455.6	1455.9	1456.2	1456.5	1456.7
45.00	1457.0	1457.3	1457.6	1457.9	1458.1	1458.4	1458.7	1459.0	1459.3	1459.5
45.10	1459.8	1460.1	1460.4	1460.7	1460.9	1461.2	1461.5	1461.8	1462.1	1462.4
45.20	1462.6	1462.9	1463.2	1463.5	1463.8	1464.0	1464.3	1464.6	1464.9	1465.2
45.30	1465.4	1465.7	1466.0	1466.3	1466.6	1466.8	1467.1	1467.4	1467.7	1468.0
45.40	1468.2	1468.5	1468.8	1469.1	1469.4	1469.6	1469.9	1470.2	1470.5	1470.8
45.50	1471.0	1471.3	1471.6	1471.9	1472.2	1472.4	1472.7	1473.0	1473.3	1473.6
45.60	1473.9	1474.1	1474.4	1474.7	1475.0	1475.3	1475.5	1475.8	1476.1	1476.4
45.70	1476.7	1476.9	1477.2	1477.5	1477.8	1478.1	1478.3	1478.6	1478.9	1479.2
45.80	1479.5	1479.7	1480.0	1480.3	1480.6	1480.9	1481.1	1481.4	1481.7	1482.0
45.90	1482.3	1482.5	1482.8	1483.1	1483.4	1483.7	1484.0	1484.2	1484.5	1484.8
46.00	1485.1	1485.4	1485.6	1485.9	1486.2	1486.5	1486.8	1487.0	1487.3	1487.6
46.10	1487.9	1488.2	1488.4	1488.7	1489.0	1489.3	1489.6	1489.8	1490.1	1490.4
46.20	1490.7	1491.0	1491.3	1491.5	1491.8	1492.1	1492.4	1492.7	1492.9	1493.2
46.30	1493.5	1493.8	1494.1	1494.3	1494.6	1494.9	1495.2	1495.5	1495.7	1496.0
46.40	1496.3	1496.6	1496.9	1497.2	1497.4	1497.7	1498.0	1498.3	1498.6	1498.8
46.50	1499.1	1499.4	1499.7	1500.0	1500.2	1500.5	1500.8	1501.1	1501.4	1501.6
46.60	1501.9	1502.2	1502.5	1502.8	1503.1	1503.3	1503.6	1503.9	1504.2	1504.5
46.70	1504.7	1505.0	1505.3	1505.6	1505.9	1506.1	1506.4	1506.7	1507.0	1507.3
46.80	1507.6	1507.8	1508.1	1508.4	1508.7	1509.0	1509.2	1509.5	1509.8	1510.1
46.90	1510.4	1510.6	1510.9	1511.2	1511.5	1511.8	1512.1	1512.3	1512.6	1512.9
47.00	1513.2	1513.5	1513.7	1514.0	1514.3	1514.6	1514.9	1515.2	1515.4	1515.7
47.10	1516.0	1516.3	1516.6	1516.8	1517.1	1517.4	1517.7	1518.0	1518.3	1518.5
47.20	1518.8	1519.1	1519.4	1519.7	1519.9	1520.2	1520.5	1520.8	1521.1	1521.4
47.30	1521.6	1521.9	1522.2	1522.5	1522.8	1523.0	1523.3	1523.6	1523.9	1524.2
47.40	1524.5	1524.7	1525.0	1525.3	1525.6	1525.9	1526.1	1526.4	1526.7	1527.0

Temperature, °F

TABLE 3 IRON-CONSTANTAN (Concluded)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
47.50	1527.3	1527.6	1527.8	1528.1	1528.4	1528.7	1529.0	1529.2	1529.5	1529.8
47.60	1530.1	1530.4	1530.7	1530.9	1531.2	1531.5	1531.8	1532.1	1532.4	1532.6
47.70	1532.9	1533.2	1533.5	1533.8	1534.0	1534.3	1534.6	1534.9	1535.2	1535.5
47.80	1535.7	1536.0	1536.3	1536.6	1536.9	1537.2	1537.4	1537.7	1538.0	1538.3
47.90	1538.6	1538.8	1539.1	1539.4	1539.7	1540.0	1540.3	1540.5	1540.8	1541.1
48.00	1541.4	1541.7	1542.0	1542.2	1542.5	1542.8	1543.1	1543.4	1543.7	1543.9
48.10	1544.2	1544.5	1544.8	1545.1	1545.4	1545.6	1545.9	1546.2	1546.5	1546.8
48.20	1547.0	1547.3	1547.6	1547.9	1548.2	1548.5	1548.7	1549.0	1549.3	1549.6
48.30	1549.9	1550.2	1550.4	1550.7	1551.0	1551.3	1551.6	1551.9	1552.1	1552.4
48.40	1552.7	1553.0	1553.3	1553.6	1553.8	1554.1	1554.4	1554.7	1555.0	1555.3
48.50	1555.5	1555.8	1556.1	1556.4	1556.7	1557.0	1557.2	1557.5	1557.8	1558.1
48.60	1558.4	1558.7	1559.0	1559.2	1559.5	1559.8	1560.1	1560.4	1560.7	1560.9
48.70	1561.2	1561.5	1561.8	1562.1	1562.4	1562.6	1562.9	1563.2	1563.5	1563.8
48.80	1564.1	1564.3	1564.6	1564.9	1565.2	1565.5	1565.8	1566.1	1566.3	1566.6
48.90	1566.9	1567.2	1567.5	1567.8	1568.0	1568.3	1568.6	1568.9	1569.2	1569.5
49.00	1569.7	1570.0	1570.3	1570.6	1570.9	1571.2	1571.5	1571.7	1572.0	1572.3
49.10	1572.6	1572.9	1573.2	1573.4	1573.7	1574.0	1574.3	1574.6	1574.9	1575.2
49.20	1575.4	1575.7	1576.0	1576.3	1576.6	1576.9	1577.1	1577.4	1577.7	1578.0
49.30	1578.3	1578.6	1578.9	1579.1	1579.4	1579.7	1580.0	1580.3	1580.6	1580.9
49.40	1581.1	1581.4	1581.7	1582.0	1582.3	1582.6	1582.8	1583.1	1583.4	1583.7
49.50	1584.0	1584.3	1584.6	1584.8	1585.1	1585.4	1585.7	1586.0	1586.3	1586.6
49.60	1586.8	1587.1	1587.4	1587.7	1588.0	1588.3	1588.6	1588.8	1589.1	1589.4
49.70	1589.7	1590.0	1590.3	1590.6	1590.8	1591.1	1591.4	1591.7	1592.0	1592.3
49.80	1592.6	1592.8	1593.1	1593.4	1593.7	1594.0	1594.3	1594.6	1594.9	1595.1
49.90	1595.4	1595.7	1596.0	1596.3	1596.6	1596.9	1597.1	1597.4	1597.7	1598.0

Temperature, °F

Table 4  
Chromel-Constantan

TABLE 4  
TEMPERATURE VS MILLIVOLTS FOR CHROMEL-CONSTANTAN THERMOCOUPLES

Millivolts	Reference Junction, 32 °F										
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	
-07.90	-0275.4	-0275.9	-0276.5	-0277.0	-0277.6	-0278.1	-0278.7	-0279.2	-0279.8	-0280.4	
-07.80	-0269.9	-0270.5	-0271.0	-0271.6	-0272.1	-0272.7	-0273.2	-0273.8	-0274.3	-0274.8	
-07.70	-0264.6	-0265.1	-0265.6	-0266.2	-0266.7	-0267.2	-0267.8	-0268.3	-0268.9	-0269.4	
-07.60	-0259.2	-0259.8	-0260.3	-0260.8	-0261.4	-0261.9	-0262.4	-0263.0	-0263.5	-0264.0	
-07.50	-0254.0	-0254.5	-0255.0	-0255.6	-0256.1	-0256.6	-0257.1	-0257.7	-0258.2	-0258.7	
-07.40	-0248.8	-0249.3	-0249.8	-0250.3	-0250.9	-0251.4	-0251.9	-0252.4	-0252.9	-0253.5	
-07.30	-0243.7	-0244.2	-0244.7	-0245.2	-0245.7	-0246.2	-0246.7	-0247.2	-0247.8	-0248.3	
-07.20	-0238.6	-0239.1	-0239.6	-0240.1	-0240.6	-0241.1	-0241.6	-0242.1	-0242.6	-0243.1	
-07.10	-0233.6	-0234.1	-0234.6	-0235.1	-0235.6	-0236.1	-0236.6	-0237.1	-0237.6	-0238.1	
-07.00	-0228.6	-0229.1	-0229.6	-0230.1	-0230.6	-0231.1	-0231.6	-0232.1	-0232.6	-0233.1	
-06.90	-0223.7	-0224.2	-0224.7	-0225.2	-0225.7	-0226.2	-0226.7	-0227.1	-0227.6	-0228.1	
-06.80	-0218.9	-0219.4	-0219.8	-0220.3	-0220.8	-0221.3	-0221.8	-0222.3	-0222.7	-0223.2	
-06.70	-0214.1	-0214.6	-0215.0	-0215.5	-0216.0	-0216.5	-0217.0	-0217.4	-0217.9	-0218.4	
-06.60	-0209.4	-0209.8	-0210.3	-0210.8	-0211.2	-0211.7	-0212.2	-0212.7	-0213.1	-0213.6	
-06.50	-0204.7	-0205.1	-0205.6	-0206.1	-0206.5	-0207.0	-0207.5	-0208.0	-0208.4	-0208.9	
-06.40	-0200.1	-0200.5	-0201.0	-0201.4	-0201.9	-0202.4	-0202.8	-0203.3	-0203.8	-0204.2	
-06.30	-0195.5	-0195.9	-0196.4	-0196.8	-0197.3	-0197.8	-0198.2	-0198.7	-0199.1	-0199.6	
-06.20	-0191.0	-0191.4	-0191.9	-0192.3	-0192.8	-0193.2	-0193.7	-0194.1	-0194.6	-0195.0	
-06.10	-0186.5	-0186.9	-0187.4	-0187.8	-0188.3	-0188.7	-0189.2	-0189.6	-0190.1	-0190.5	
-06.00	-0182.0	-0182.5	-0182.9	-0183.4	-0183.8	-0184.3	-0184.7	-0185.1	-0185.6	-0186.0	
-05.90	-0177.7	-0178.1	-0178.5	-0179.0	-0179.4	-0179.9	-0180.3	-0180.7	-0181.2	-0181.6	
-05.80	-0173.3	-0173.8	-0174.2	-0174.6	-0175.1	-0175.5	-0175.9	-0176.4	-0176.8	-0177.2	
-05.70	-0169.0	-0169.5	-0169.9	-0170.3	-0170.7	-0171.2	-0171.6	-0172.0	-0172.5	-0172.9	
-05.60	-0164.8	-0165.2	-0165.6	-0166.1	-0166.5	-0166.9	-0167.3	-0167.8	-0168.2	-0168.6	
-05.50	-0160.6	-0161.0	-0161.4	-0161.8	-0162.3	-0162.7	-0163.1	-0163.5	-0163.9	-0164.4	
-05.40	-0156.4	-0156.8	-0157.3	-0157.7	-0158.1	-0158.5	-0158.9	-0159.3	-0159.7	-0160.1	
-05.30	-0152.2	-0152.7	-0153.1	-0153.5	-0153.9	-0154.4	-0154.8	-0155.2	-0155.6	-0156.0	
-05.20	-0148.2	-0148.6	-0149.0	-0149.4	-0149.8	-0150.3	-0150.7	-0151.1	-0151.5	-0151.9	
-05.10	-0144.2	-0144.6	-0145.0	-0145.4	-0145.8	-0146.2	-0146.6	-0147.0	-0147.4	-0147.8	
-05.00	-0140.2	-0140.6	-0141.0	-0141.4	-0141.8	-0142.2	-0142.6	-0143.0	-0143.4	-0143.8	
-04.90	-0136.2	-0136.6	-0137.0	-0137.4	-0137.8	-0138.2	-0138.6	-0139.0	-0139.4	-0139.8	
-04.80	-0132.3	-0132.7	-0133.0	-0133.4	-0133.8	-0134.2	-0134.6	-0135.0	-0135.4	-0135.8	
-04.70	-0128.4	-0128.8	-0129.1	-0129.5	-0129.9	-0130.3	-0130.7	-0131.1	-0131.5	-0131.9	
-04.60	-0124.5	-0124.9	-0125.3	-0125.7	-0126.0	-0126.4	-0126.8	-0127.2	-0127.6	-0128.0	
-04.50	-0120.7	-0121.0	-0121.4	-0121.8	-0122.2	-0122.6	-0123.0	-0123.4	-0123.7	-0124.1	
-04.40	-0116.9	-0117.2	-0117.6	-0118.0	-0118.4	-0118.8	-0119.1	-0119.5	-0119.9	-0120.3	
-04.30	-0113.1	-0113.5	-0113.8	-0114.2	-0114.6	-0115.0	-0115.4	-0115.7	-0116.1	-0116.5	
-04.20	-0109.3	-0109.7	-0110.1	-0110.5	-0110.8	-0111.2	-0111.6	-0112.0	-0112.3	-0112.7	
-04.10	-0105.6	-0106.0	-0106.4	-0106.7	-0107.1	-0107.5	-0107.9	-0108.3	-0108.6	-0109.0	
-04.00	-0101.9	-0102.3	-0102.7	-0103.0	-0103.4	-0103.8	-0104.2	-0104.5	-0104.9	-0105.3	
-03.90	-0098.3	-0098.6	-0099.0	-0099.3	-0099.7	-0100.1	-0100.5	-0100.8	-0101.2	-0101.6	
-03.80	-0094.6	-0095.0	-0095.4	-0095.7	-0096.1	-0096.5	-0096.8	-0097.2	-0097.6	-0097.9	
-03.70	-0091.0	-0091.4	-0091.8	-0092.1	-0092.5	-0092.9	-0093.2	-0093.6	-0093.9	-0094.3	
-03.60	-0087.4	-0087.8	-0088.2	-0088.5	-0088.9	-0089.2	-0089.6	-0090.0	-0090.3	-0090.7	
-03.50	-0083.9	-0084.2	-0084.6	-0084.9	-0085.3	-0085.7	-0086.0	-0086.4	-0086.7	-0087.1	
-03.40	-0080.3	-0080.7	-0081.0	-0081.4	-0081.7	-0082.1	-0082.4	-0082.8	-0083.1	-0083.5	
-03.30	-0076.8	-0077.1	-0077.5	-0077.8	-0078.2	-0078.5	-0078.9	-0079.2	-0079.6	-0079.9	
-03.20	-0073.3	-0073.7	-0074.0	-0074.4	-0074.7	-0075.1	-0075.4	-0075.8	-0076.1	-0076.5	
-03.10	-0069.8	-0070.2	-0070.5	-0070.9	-0071.2	-0071.6	-0071.9	-0072.3	-0072.6	-0073.0	
-03.00	-0066.3	-0066.7	-0067.0	-0067.4	-0067.7	-0068.1	-0068.4	-0068.8	-0069.1	-0069.5	

Temperature, °F



TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-02.90	-0062.9	-0063.2	-0063.5	-0063.9	-0064.3	-0064.6	-0065.0	-0065.3	-0065.7	-0066.0
-02.80	-0059.5	-0059.8	-0060.1	-0060.5	-0060.8	-0061.2	-0061.5	-0061.9	-0062.2	-0062.5
-02.70	-0056.0	-0056.4	-0056.7	-0057.1	-0057.4	-0057.7	-0058.1	-0058.4	-0058.8	-0059.1
-02.60	-0052.6	-0053.0	-0053.3	-0053.6	-0054.0	-0054.3	-0054.7	-0055.0	-0055.3	-0055.7
-02.50	-0049.2	-0049.6	-0049.9	-0050.2	-0050.6	-0050.9	-0051.3	-0051.6	-0051.9	-0052.3
-02.40	-0045.8	-0046.2	-0046.5	-0046.8	-0047.2	-0047.5	-0047.9	-0048.2	-0048.5	-0048.9
-02.30	-0042.4	-0042.8	-0043.1	-0043.5	-0043.8	-0044.1	-0044.5	-0044.8	-0045.1	-0045.5
-02.20	-0039.1	-0039.4	-0039.7	-0040.1	-0040.4	-0040.8	-0041.1	-0041.4	-0041.8	-0042.1
-02.10	-0035.7	-0036.0	-0036.4	-0036.7	-0037.1	-0037.4	-0037.7	-0038.1	-0038.4	-0038.7
-02.00	-0032.3	-0032.7	-0033.0	-0033.4	-0033.7	-0034.0	-0034.4	-0034.7	-0035.0	-0035.4
-01.90	-0029.0	-0029.3	-0029.7	-0030.0	-0030.3	-0030.7	-0031.0	-0031.3	-0031.7	-0032.0
-01.80	-0025.7	-0026.0	-0026.3	-0026.7	-0027.0	-0027.3	-0027.7	-0028.0	-0028.3	-0028.7
-01.70	-0022.3	-0022.6	-0023.0	-0023.3	-0023.6	-0024.0	-0024.3	-0024.6	-0025.0	-0025.3
-01.60	-0019.0	-0019.3	-0019.6	-0020.0	-0020.3	-0020.6	-0021.0	-0021.3	-0021.6	-0022.0
-01.50	-0015.6	-0016.0	-0016.3	-0016.6	-0017.0	-0017.3	-0017.6	-0018.0	-0018.3	-0018.6
-01.40	-0012.3	-0012.6	-0013.0	-0013.3	-0013.6	-0014.0	-0014.3	-0014.6	-0015.0	-0015.3
-01.30	-0009.0	-0009.3	-0009.6	-0010.0	-0010.3	-0010.6	-0011.0	-0011.3	-0011.6	-0012.0
-01.20	-0005.6	-0005.9	-0006.3	-0006.6	-0006.9	-0007.3	-0007.6	-0007.9	-0008.3	-0008.6
-01.10	-0002.3	-0002.6	-0002.9	-0003.3	-0003.6	-0003.9	-0004.3	-0004.6	-0004.9	-0005.3
-01.00	0000.7	0000.4	0000.4	0000.1	-0000.3	-0000.6	-0000.9	-0001.3	-0001.6	-0001.9
-00.90	0003.9	0003.6	0003.2	0002.9	0002.6	0002.3	0002.0	0001.7	0001.3	0001.0
-00.80	0007.0	0006.7	0006.4	0006.1	0005.8	0005.5	0005.1	0004.8	0004.5	0004.2
-00.70	0010.2	0009.9	0009.6	0009.3	0008.9	0008.6	0008.3	0008.0	0007.7	0007.4
-00.60	0013.4	0013.0	0012.7	0012.4	0012.1	0011.8	0011.5	0011.1	0010.8	0010.5
-00.50	0016.5	0016.2	0015.9	0015.5	0015.2	0014.9	0014.6	0014.3	0014.0	0013.7
-00.40	0019.6	0019.3	0019.0	0018.7	0018.4	0018.1	0017.7	0017.4	0017.1	0016.8
-00.30	0022.7	0022.4	0022.1	0021.8	0021.5	0021.2	0020.9	0020.6	0020.2	0019.9
-00.20	0025.8	0025.5	0025.2	0024.9	0024.6	0024.3	0024.0	0023.7	0023.4	0023.0
-00.10	0028.9	0028.6	0028.3	0028.0	0027.7	0027.4	0027.1	0026.8	0026.5	0026.2
-00.00	0032.0	0031.7	0031.4	0031.1	0030.8	0030.5	0030.2	0029.9	0029.6	0029.3
00.00	0032.0	0032.3	0032.7	0033.0	0033.3	0033.6	0033.9	0034.2	0034.5	0034.8
00.10	0035.1	0035.4	0035.7	0036.0	0036.4	0036.7	0037.0	0037.3	0037.6	0037.9
00.20	0038.2	0038.5	0038.8	0039.1	0039.4	0039.7	0040.0	0040.3	0040.6	0041.0
00.30	0041.3	0041.6	0041.9	0042.2	0042.5	0042.8	0043.1	0043.4	0043.7	0044.0
00.40	0044.3	0044.6	0044.9	0045.2	0045.5	0045.8	0046.1	0046.4	0046.7	0047.1
00.50	0047.4	0047.7	0048.0	0048.3	0048.6	0048.9	0049.2	0049.5	0049.8	0050.1
00.60	0050.4	0050.7	0051.0	0051.3	0051.6	0051.9	0052.2	0052.5	0052.8	0053.1
00.70	0053.4	0053.7	0054.0	0054.3	0054.6	0054.9	0055.2	0055.5	0055.8	0056.1
00.80	0056.4	0056.7	0057.0	0057.3	0057.6	0057.9	0058.2	0058.5	0058.9	0059.2
00.90	0059.5	0059.8	0060.1	0060.4	0060.7	0061.0	0061.3	0061.6	0061.9	0062.2
01.00	0062.5	0062.8	0063.1	0063.4	0063.7	0064.0	0064.3	0064.6	0064.9	0065.1
01.10	0065.4	0065.7	0066.0	0066.3	0066.6	0066.9	0067.2	0067.5	0067.8	0068.1
01.20	0068.4	0068.7	0069.0	0069.3	0069.6	0069.9	0070.2	0070.5	0070.8	0071.1
01.30	0071.4	0071.7	0072.0	0072.3	0072.6	0072.9	0073.2	0073.5	0073.8	0074.1
01.40	0074.4	0074.7	0075.0	0075.3	0075.6	0075.9	0076.2	0076.5	0076.8	0077.0
01.50	0077.3	0077.6	0077.9	0078.2	0078.5	0078.8	0079.1	0079.4	0079.7	0080.0
01.60	0080.3	0080.6	0080.9	0081.2	0081.5	0081.8	0082.1	0082.4	0082.7	0083.0
01.70	0083.2	0083.5	0083.8	0084.1	0084.4	0084.7	0085.0	0085.3	0085.6	0085.9
01.80	0086.2	0086.5	0086.8	0087.1	0087.4	0087.7	0088.0	0088.3	0088.6	0088.9
01.90	0089.1	0089.4	0089.7	0090.0	0090.3	0090.6	0090.9	0091.2	0091.5	0091.7

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
02.00	0092.0	0092.2	0092.6	0092.9	0093.2	0093.5	0093.8	0094.1	0094.4	0094.7
02.10	0094.9	0095.2	0095.5	0095.8	0096.1	0096.4	0096.7	0097.0	0097.3	0097.6
02.20	0097.8	0098.1	0098.4	0098.7	0099.0	0099.3	0099.6	0099.9	0100.2	0100.5
02.30	0100.7	0101.0	0101.3	0101.6	0101.9	0102.2	0102.5	0102.8	0103.1	0103.3
02.40	0103.6	0103.9	0104.2	0104.5	0104.8	0105.1	0105.4	0105.7	0105.9	0106.2
02.50	0106.5	0106.8	0107.1	0107.4	0107.7	0108.0	0108.2	0108.5	0108.8	0109.1
02.60	0109.4	0109.7	0110.0	0110.3	0110.5	0110.8	0111.1	0111.4	0111.7	0112.0
02.70	0112.3	0112.6	0112.8	0113.1	0113.4	0113.7	0114.0	0114.3	0114.6	0114.8
02.80	0115.1	0115.4	0115.7	0116.0	0116.3	0116.6	0116.8	0117.1	0117.4	0117.7
02.90	0118.0	0118.3	0118.6	0118.8	0119.1	0119.4	0119.7	0120.0	0120.3	0120.5
03.00	0120.8	0121.1	0121.4	0121.7	0122.0	0122.3	0122.5	0122.8	0123.1	0123.4
03.10	0123.7	0124.0	0124.2	0124.5	0124.8	0125.1	0125.4	0125.7	0125.9	0126.2
03.20	0126.5	0126.8	0127.1	0127.4	0127.6	0127.9	0128.2	0128.5	0128.8	0129.1
03.30	0129.3	0129.6	0129.9	0130.2	0130.5	0130.7	0131.0	0131.3	0131.6	0131.9
03.40	0132.2	0132.4	0132.7	0133.0	0133.3	0133.6	0133.8	0134.1	0134.4	0134.7
03.50	0135.0	0135.3	0135.5	0135.8	0136.1	0136.4	0136.7	0136.9	0137.2	0137.5
03.60	0137.8	0138.1	0138.3	0138.6	0138.9	0139.2	0139.5	0139.7	0140.0	0140.3
03.70	0140.6	0140.9	0141.1	0141.4	0141.7	0142.0	0142.3	0142.5	0142.8	0143.1
03.80	0143.4	0143.7	0143.9	0144.2	0144.5	0144.8	0145.1	0145.3	0145.6	0145.9
03.90	0146.2	0146.4	0146.7	0147.0	0147.3	0147.6	0147.8	0148.1	0148.4	0148.7
04.00	0148.9	0149.2	0149.5	0149.8	0150.1	0150.3	0150.6	0150.9	0151.2	0151.4
04.10	0151.7	0152.0	0152.3	0152.6	0152.8	0153.1	0153.4	0153.7	0153.9	0154.2
04.20	0154.5	0154.8	0155.0	0155.3	0155.6	0155.9	0156.2	0156.4	0156.7	0157.0
04.30	0157.3	0157.5	0157.8	0158.1	0158.4	0158.6	0158.9	0159.2	0159.5	0159.7
04.40	0160.0	0160.3	0160.6	0160.8	0161.1	0161.4	0161.7	0161.9	0162.2	0162.5
04.50	0162.8	0163.0	0163.3	0163.6	0163.9	0164.1	0164.4	0164.7	0165.0	0165.2
04.60	0165.5	0165.8	0166.1	0166.3	0166.6	0166.9	0167.2	0167.4	0167.7	0168.0
04.70	0168.3	0168.5	0168.8	0169.1	0169.4	0169.6	0169.9	0170.2	0170.4	0170.7
04.80	0171.0	0171.3	0171.5	0171.8	0172.1	0172.4	0172.6	0172.9	0173.2	0173.5
04.90	0173.7	0174.0	0174.3	0174.5	0174.8	0175.1	0175.4	0175.6	0175.9	0176.2
05.00	0176.5	0176.7	0177.0	0177.3	0177.5	0177.8	0178.1	0178.4	0178.6	0178.9
05.10	0179.2	0179.4	0179.7	0180.0	0180.3	0180.5	0180.8	0181.1	0181.3	0181.6
05.20	0181.9	0182.2	0182.4	0182.7	0183.0	0183.2	0183.5	0183.8	0184.1	0184.3
05.30	0184.6	0184.9	0185.1	0185.4	0185.7	0185.9	0186.2	0186.5	0186.8	0187.0
05.40	0187.3	0187.6	0187.8	0188.1	0188.4	0188.6	0188.9	0189.2	0189.5	0189.7
05.50	0190.0	0190.3	0190.5	0190.8	0191.1	0191.3	0191.6	0191.9	0192.2	0192.4
05.60	0192.7	0193.0	0193.2	0193.5	0193.8	0194.0	0194.3	0194.6	0194.8	0195.1
05.70	0195.4	0195.6	0195.9	0196.2	0196.5	0196.7	0197.0	0197.3	0197.5	0197.8
05.80	0198.1	0198.3	0198.6	0198.9	0199.1	0199.4	0199.7	0199.9	0200.2	0200.5
05.90	0200.7	0201.0	0201.3	0201.5	0201.8	0202.1	0202.3	0202.6	0202.9	0203.1
06.00	0203.4	0203.7	0203.9	0204.2	0204.5	0204.7	0205.0	0205.3	0205.6	0205.8
06.10	0206.1	0206.4	0206.6	0206.9	0207.2	0207.4	0207.7	0208.0	0208.2	0208.5
06.20	0208.7	0209.0	0209.3	0209.5	0209.8	0210.1	0210.3	0210.6	0210.9	0211.1
06.30	0211.4	0211.7	0211.9	0212.2	0212.5	0212.7	0213.0	0213.3	0213.5	0213.8
06.40	0214.1	0214.3	0214.6	0214.9	0215.1	0215.4	0215.7	0215.9	0216.2	0216.5
06.50	0216.7	0217.0	0217.2	0217.5	0217.8	0218.0	0218.3	0218.6	0218.8	0219.1
06.60	0219.4	0219.7	0219.9	0220.2	0220.4	0220.7	0221.0	0221.2	0221.5	0221.7
06.70	0222.0	0222.3	0222.5	0222.8	0223.1	0223.3	0223.6	0223.9	0224.1	0224.4
06.80	0224.6	0224.9	0225.2	0225.4	0225.7	0226.0	0226.2	0226.5	0226.8	0227.0
06.90	0227.3	0227.6	0227.8	0228.1	0228.3	0228.6	0228.9	0229.1	0229.4	0229.7

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
07.00	0229.9	0230.2	0230.4	0230.7	0231.0	0231.2	0231.5	0231.8	0232.0	0232.3
07.10	0232.5	0232.8	0233.1	0233.3	0233.6	0233.9	0234.1	0234.4	0234.6	0234.9
07.20	0235.2	0235.4	0235.7	0236.0	0236.2	0236.5	0236.7	0237.0	0237.3	0237.5
07.30	0237.8	0238.1	0238.3	0238.6	0238.8	0239.1	0239.4	0239.6	0239.9	0240.1
07.40	0240.4	0240.7	0240.9	0241.2	0241.5	0241.7	0242.0	0242.2	0242.5	0242.8
07.50	0243.0	0243.3	0243.5	0243.8	0244.1	0244.3	0244.6	0244.8	0245.1	0245.4
07.60	0245.6	0245.9	0246.2	0245.4	0246.7	0246.9	0247.2	0247.5	0247.7	0248.0
07.70	0248.2	0248.5	0248.8	0249.0	0249.3	0249.5	0249.8	0250.1	0250.3	0250.6
07.80	0250.8	0251.1	0251.4	0251.6	0251.9	0252.1	0252.4	0252.7	0252.9	0253.2
07.90	0253.4	0253.7	0254.0	0254.2	0254.5	0254.7	0255.0	0255.3	0255.5	0255.8
08.00	0256.0	0256.3	0256.6	0256.8	0257.1	0257.3	0257.6	0257.9	0258.1	0258.4
08.10	0258.6	0258.9	0259.1	0259.4	0259.7	0259.9	0260.2	0260.4	0260.7	0261.0
08.20	0261.2	0261.5	0261.7	0262.0	0262.3	0262.5	0262.8	0263.0	0263.3	0263.5
08.30	0263.8	0264.1	0264.3	0264.6	0264.8	0265.1	0265.4	0265.6	0265.9	0266.1
08.40	0266.4	0266.6	0266.9	0267.2	0267.4	0267.7	0267.9	0268.2	0268.5	0268.7
08.50	0269.0	0269.2	0269.5	0269.7	0270.0	0270.3	0270.5	0270.8	0271.0	0271.3
08.60	0271.6	0271.8	0272.1	0272.3	0272.6	0272.8	0273.1	0273.4	0273.6	0273.9
08.70	0274.1	0274.4	0274.6	0274.9	0275.2	0275.4	0275.7	0275.9	0276.2	0276.4
08.80	0276.7	0277.0	0277.2	0277.5	0277.7	0278.0	0278.2	0278.5	0278.8	0279.0
08.90	0279.3	0279.5	0279.8	0280.0	0280.3	0280.6	0280.8	0281.1	0281.3	0281.6
09.00	0281.8	0282.1	0282.4	0282.6	0282.9	0283.1	0283.4	0283.6	0283.9	0284.2
09.10	0284.4	0284.7	0284.9	0285.2	0285.4	0285.7	0285.9	0286.2	0286.5	0286.7
09.20	0287.0	0287.2	0287.5	0287.7	0288.0	0288.3	0288.5	0288.8	0289.0	0289.3
09.30	0289.5	0289.8	0290.0	0290.3	0290.6	0290.8	0291.1	0291.3	0291.6	0291.8
09.40	0292.1	0292.4	0292.6	0292.9	0293.1	0293.4	0293.6	0293.9	0294.1	0294.4
09.50	0294.7	0294.9	0295.2	0295.4	0295.7	0295.9	0296.2	0296.4	0296.7	0297.0
09.60	0297.2	0297.5	0297.7	0298.0	0298.2	0298.5	0298.7	0299.0	0299.3	0299.5
09.70	0299.8	0300.0	0300.4	0300.7	0300.9	0301.2	0301.4	0301.7	0301.9	0302.2
09.80	0302.4	0302.7	0302.9	0303.2	0303.4	0303.7	0303.9	0304.2	0304.4	0304.7
09.90	0305.0	0305.2	0305.5	0305.7	0306.0	0306.2	0306.5	0306.7	0307.0	0307.2
10.00	0307.5	0307.7	0308.0	0308.2	0308.5	0308.7	0309.0	0309.2	0309.5	0309.7
10.10	0310.0	0310.2	0310.5	0310.7	0311.0	0311.2	0311.5	0311.7	0312.0	0312.2
10.20	0312.5	0312.7	0313.0	0313.2	0313.5	0313.7	0313.9	0314.2	0314.4	0314.7
10.30	0314.9	0315.2	0315.4	0315.7	0315.9	0316.2	0316.4	0316.7	0316.9	0317.2
10.40	0317.4	0317.7	0317.9	0318.2	0318.4	0318.7	0318.9	0319.2	0319.4	0319.7
10.50	0319.9	0320.2	0320.4	0320.7	0320.9	0321.2	0321.4	0321.7	0321.9	0322.2
10.60	0322.4	0322.7	0322.9	0323.2	0323.4	0323.7	0323.9	0324.2	0324.4	0324.7
10.70	0324.9	0325.2	0325.4	0325.7	0325.9	0326.2	0326.4	0326.6	0326.9	0327.1
10.80	0327.4	0327.6	0327.9	0328.1	0328.4	0328.6	0328.9	0329.1	0329.4	0329.6
10.90	0329.9	0330.1	0330.4	0330.6	0330.9	0331.1	0331.4	0331.6	0331.9	0332.1
11.00	0332.4	0332.6	0332.9	0333.1	0333.3	0333.6	0333.8	0334.1	0334.3	0334.6
11.10	0334.8	0335.1	0335.3	0335.6	0335.8	0336.1	0336.3	0336.6	0336.8	0337.1
11.20	0337.3	0337.6	0337.8	0338.1	0338.3	0338.5	0338.8	0339.0	0339.3	0339.5
11.30	0339.8	0340.0	0340.3	0340.5	0340.8	0341.0	0341.3	0341.5	0341.8	0342.0
11.40	0342.3	0342.5	0342.8	0343.0	0343.2	0343.5	0343.7	0343.9	0344.2	0344.5
11.50	0344.7	0345.0	0345.2	0345.5	0345.7	0346.0	0346.2	0346.5	0346.7	0347.0
11.60	0347.2	0347.4	0347.7	0347.9	0348.2	0348.4	0348.7	0348.9	0349.2	0349.4
11.70	0349.7	0349.9	0350.2	0350.4	0350.6	0350.9	0351.1	0351.4	0351.6	0351.9
11.80	0352.1	0352.4	0352.6	0352.9	0353.1	0353.4	0353.6	0353.9	0354.1	0354.3
11.90	0354.6	0354.8	0355.1	0355.3	0355.6	0355.8	0356.1	0356.3	0356.6	0356.8

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F										
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	
12.00	0357.0	0357.3	0357.5	0357.8	0358.0	0358.3	0358.5	0358.8	0359.0	0359.3	
12.10	0359.5	0359.7	0360.0	0360.2	0360.5	0360.7	0361.0	0361.2	0361.5	0361.7	
12.20	0362.0	0362.2	0362.4	0362.7	0362.9	0363.2	0363.4	0363.7	0363.9	0364.2	
12.30	0364.4	0364.7	0364.9	0365.1	0365.4	0365.6	0365.9	0366.1	0366.4	0366.6	
12.40	0366.9	0367.1	0367.4	0367.6	0367.8	0368.1	0368.3	0368.6	0368.8	0369.1	
12.50	0369.3	0369.6	0369.8	0370.0	0370.3	0370.5	0370.8	0371.0	0371.3	0371.5	
12.60	0371.8	0372.0	0372.2	0372.5	0372.7	0373.0	0373.2	0373.5	0373.7	0374.0	
12.70	0374.2	0374.4	0374.7	0374.9	0375.2	0375.4	0375.7	0375.9	0376.2	0376.4	
12.80	0376.6	0376.9	0377.1	0377.4	0377.6	0377.9	0378.1	0378.4	0378.6	0378.8	
12.90	0379.1	0379.3	0379.6	0379.8	0380.1	0380.3	0380.6	0380.8	0381.0	0381.3	
13.00	0381.5	0381.8	0382.0	0382.3	0382.5	0382.7	0383.0	0383.2	0383.5	0383.7	
13.10	0384.0	0384.2	0384.5	0384.7	0384.9	0385.2	0385.4	0385.7	0385.9	0386.2	
13.20	0386.4	0386.6	0386.9	0387.1	0387.4	0387.6	0387.9	0388.1	0388.3	0388.6	
13.30	0388.8	0389.1	0389.3	0389.6	0389.8	0390.1	0390.3	0390.5	0390.8	0391.0	
13.40	0391.3	0391.5	0391.8	0392.0	0392.2	0392.5	0392.7	0393.0	0393.2	0393.5	
13.50	0393.7	0393.9	0394.2	0394.4	0394.7	0394.9	0395.2	0395.4	0395.6	0395.9	
13.60	0396.1	0396.4	0396.6	0396.9	0397.1	0397.3	0397.6	0397.8	0398.1	0398.3	
13.70	0398.6	0398.8	0399.0	0399.3	0399.5	0399.8	0400.0	0400.2	0400.5	0400.7	
13.80	0401.0	0401.2	0401.5	0401.7	0401.9	0402.2	0402.4	0402.7	0402.9	0403.2	
13.90	0403.4	0403.6	0403.9	0404.1	0404.4	0404.6	0404.8	0405.1	0405.3	0405.6	
14.00	0405.8	0406.1	0406.3	0406.5	0406.8	0407.0	0407.3	0407.5	0407.8	0408.0	
14.10	0408.2	0408.5	0408.7	0409.0	0409.2	0409.4	0409.7	0409.9	0410.2	0410.4	
14.20	0410.7	0410.9	0411.1	0411.4	0411.6	0411.9	0412.1	0412.3	0412.6	0412.8	
14.30	0413.1	0413.3	0413.5	0413.8	0414.0	0414.3	0414.5	0414.8	0415.0	0415.2	
14.40	0415.5	0415.7	0416.0	0416.2	0416.4	0416.7	0416.9	0417.2	0417.4	0417.6	
14.50	0417.9	0418.1	0418.4	0418.6	0418.9	0419.1	0419.3	0419.6	0419.8	0420.1	
14.60	0420.3	0420.5	0420.8	0421.0	0421.3	0421.5	0421.7	0422.0	0422.2	0422.5	
14.70	0422.7	0422.9	0423.2	0423.4	0423.7	0423.9	0424.2	0424.4	0424.6	0424.9	
14.80	0425.1	0425.4	0425.6	0425.8	0426.1	0426.3	0426.6	0426.8	0427.0	0427.3	
14.90	0427.5	0427.8	0428.0	0428.2	0428.5	0428.7	0429.0	0429.2	0429.4	0429.7	
15.00	0429.9	0430.2	0430.4	0430.6	0430.9	0431.1	0431.4	0431.6	0431.8	0432.1	
15.10	0432.3	0432.6	0432.8	0433.0	0433.3	0433.5	0433.8	0434.0	0434.2	0434.5	
15.20	0434.7	0435.0	0435.2	0435.4	0435.7	0435.9	0436.2	0436.4	0436.6	0436.9	
15.30	0437.1	0437.4	0437.6	0437.8	0438.1	0438.3	0438.6	0438.8	0439.0	0439.3	
15.40	0439.5	0439.7	0440.0	0440.2	0440.5	0440.7	0440.9	0441.2	0441.4	0441.7	
15.50	0441.9	0442.1	0442.4	0442.6	0442.9	0443.1	0443.3	0443.6	0443.8	0444.1	
15.60	0444.3	0444.5	0444.8	0445.0	0445.3	0445.5	0445.7	0446.0	0446.2	0446.4	
15.70	0446.7	0446.9	0447.2	0447.4	0447.6	0447.9	0448.1	0448.4	0448.6	0448.8	
15.80	0449.1	0449.3	0449.6	0449.8	0450.0	0450.3	0450.5	0450.7	0451.0	0451.2	
15.90	0451.5	0451.7	0451.9	0452.2	0452.4	0452.7	0452.9	0453.1	0453.4	0453.6	
16.00	0453.8	0454.1	0454.3	0454.6	0454.8	0455.0	0455.3	0455.5	0455.8	0456.0	
16.10	0456.2	0456.5	0456.7	0456.9	0457.2	0457.4	0457.7	0457.9	0458.1	0458.4	
16.20	0458.6	0458.8	0459.1	0459.3	0459.6	0459.8	0460.0	0460.3	0460.5	0460.8	
16.30	0461.0	0461.2	0461.5	0461.7	0461.9	0462.2	0462.4	0462.7	0462.9	0463.1	
16.40	0463.4	0463.5	0463.8	0464.1	0464.3	0464.6	0464.8	0465.0	0465.3	0465.5	
16.50	0465.7	0466.0	0466.2	0466.5	0466.7	0466.9	0467.2	0467.4	0467.6	0467.9	
16.60	0468.1	0468.4	0468.6	0468.8	0469.1	0469.3	0469.5	0469.8	0470.0	0470.3	
16.70	0470.5	0470.7	0471.0	0471.2	0471.4	0471.7	0471.9	0472.2	0472.4	0472.6	
16.80	0472.9	0473.1	0473.3	0473.6	0473.8	0474.0	0474.3	0474.5	0474.8	0475.0	
16.90	0475.2	0475.5	0475.7	0475.9	0476.2	0476.4	0476.7	0476.9	0477.1	0477.4	

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
17.00	0477.6	0477.8	0478.1	0478.3	0478.5	0478.8	0479.0	0479.3	0479.5	0479.7
17.10	0480.0	0480.2	0480.4	0480.7	0480.9	0481.2	0481.4	0481.6	0481.9	0482.1
17.20	0482.3	0482.6	0482.8	0483.0	0483.3	0483.5	0483.8	0484.0	0484.2	0484.5
17.30	0484.7	0484.9	0485.1	0485.4	0485.6	0485.9	0486.1	0486.4	0486.6	0486.8
17.40	0487.1	0487.3	0487.5	0487.8	0488.0	0488.2	0488.5	0488.7	0488.9	0489.2
17.50	0489.4	0489.7	0489.9	0490.1	0490.4	0490.6	0490.8	0491.1	0491.3	0491.5
17.60	0491.8	0492.0	0492.3	0492.5	0492.7	0493.0	0493.2	0493.4	0493.7	0493.9
17.70	0494.1	0494.4	0494.6	0494.8	0495.1	0495.3	0495.6	0495.8	0496.0	0496.3
17.80	0496.5	0496.7	0497.0	0497.2	0497.4	0497.7	0497.9	0498.1	0498.4	0498.6
17.90	0498.8	0499.1	0499.3	0499.6	0499.8	0500.0	0500.3	0500.5	0500.7	0501.0
18.00	0501.2	0501.4	0501.7	0501.9	0502.1	0502.4	0502.6	0502.8	0503.1	0503.3
18.10	0503.6	0503.8	0504.0	0504.3	0504.5	0504.7	0505.0	0505.2	0505.4	0505.7
18.20	0505.9	0506.1	0506.4	0506.6	0506.8	0507.1	0507.3	0507.5	0507.8	0508.0
18.30	0508.3	0508.5	0508.7	0509.0	0509.2	0509.4	0509.7	0509.9	0510.1	0510.4
18.40	0510.6	0510.8	0511.1	0511.3	0511.5	0511.8	0512.0	0512.2	0512.5	0512.7
18.50	0512.9	0513.2	0513.4	0513.7	0513.9	0514.1	0514.4	0514.6	0514.8	0515.1
18.60	0515.3	0515.5	0515.8	0516.0	0516.2	0516.5	0516.7	0516.9	0517.2	0517.4
18.70	0517.6	0517.9	0518.1	0518.3	0518.6	0518.8	0519.0	0519.3	0519.5	0519.7
18.80	0520.0	0520.2	0520.4	0520.7	0520.9	0521.1	0521.4	0521.6	0521.8	0522.1
18.90	0522.3	0522.5	0522.8	0523.0	0523.3	0523.5	0523.7	0524.0	0524.2	0524.4
19.00	0524.7	0524.9	0525.1	0525.4	0525.6	0525.8	0526.1	0526.3	0526.5	0526.8
19.10	0527.0	0527.2	0527.5	0527.7	0527.9	0528.2	0528.4	0528.6	0528.9	0529.1
19.20	0529.3	0529.6	0529.8	0530.0	0530.3	0530.5	0530.7	0531.0	0531.2	0531.4
19.30	0531.7	0531.9	0532.1	0532.4	0532.6	0532.8	0533.1	0533.3	0533.5	0533.8
19.40	0534.0	0534.2	0534.5	0534.7	0534.9	0535.2	0535.4	0535.6	0535.9	0536.1
19.50	0536.3	0536.6	0536.8	0537.0	0537.3	0537.5	0537.7	0538.0	0538.2	0538.4
19.60	0538.7	0538.9	0539.1	0539.4	0539.6	0539.8	0540.1	0540.3	0540.5	0540.8
19.70	0541.0	0541.2	0541.5	0541.7	0541.9	0542.2	0542.4	0542.6	0542.9	0543.1
19.80	0543.3	0543.5	0543.8	0544.0	0544.2	0544.5	0544.7	0544.9	0545.2	0545.4
19.90	0545.6	0545.9	0546.1	0546.3	0546.6	0546.8	0547.0	0547.3	0547.5	0547.7
20.00	0548.0	0548.2	0548.4	0548.7	0548.9	0549.1	0549.4	0549.6	0549.8	0550.1
20.10	0550.3	0550.5	0550.8	0551.0	0551.2	0551.5	0551.7	0551.9	0552.1	0552.4
20.20	0552.6	0552.8	0553.1	0553.3	0553.5	0553.8	0554.0	0554.2	0554.5	0554.7
20.30	0554.9	0555.2	0555.4	0555.6	0555.9	0556.1	0556.3	0556.6	0556.8	0557.0
20.40	0557.3	0557.5	0557.7	0558.0	0558.2	0558.4	0558.6	0558.9	0559.1	0559.3
20.50	0559.6	0559.8	0560.0	0560.3	0560.5	0560.7	0561.0	0561.2	0561.4	0561.7
20.60	0561.9	0562.1	0562.4	0562.6	0562.8	0563.1	0563.3	0563.5	0563.7	0564.0
20.70	0564.2	0564.4	0564.7	0564.9	0565.1	0565.4	0565.6	0565.8	0566.1	0566.3
20.80	0566.5	0566.8	0567.0	0567.2	0567.4	0567.7	0567.9	0568.1	0568.4	0568.6
20.90	0568.8	0569.1	0569.3	0569.5	0569.8	0570.0	0570.2	0570.5	0570.7	0570.9
21.00	0571.2	0571.4	0571.6	0571.8	0572.1	0572.3	0572.5	0572.8	0573.0	0573.2
21.10	0573.5	0573.7	0573.9	0574.2	0574.4	0574.6	0574.8	0575.1	0575.2	0575.5
21.20	0575.8	0576.0	0576.2	0576.5	0576.7	0576.9	0577.1	0577.4	0577.6	0577.8
21.30	0578.1	0578.3	0578.5	0578.7	0579.0	0579.2	0579.5	0579.7	0579.9	0580.1
21.40	0580.4	0580.6	0580.9	0581.1	0581.3	0581.5	0581.8	0582.0	0582.2	0582.5
21.50	0582.7	0582.9	0583.2	0583.4	0583.6	0583.9	0584.1	0584.3	0584.5	0584.8
21.60	0585.0	0585.2	0585.5	0585.7	0585.9	0586.2	0586.4	0586.6	0586.8	0587.1
21.70	0587.3	0587.5	0587.7	0588.0	0588.2	0588.5	0588.7	0588.9	0589.1	0589.4
21.80	0589.6	0589.8	0590.1	0590.3	0590.5	0590.8	0591.0	0591.2	0591.5	0591.7
21.90	0591.9	0592.1	0592.4	0592.6	0592.8	0593.1	0593.3	0593.5	0593.8	0594.0

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
22.00	0594.2	0594.4	0594.7	0594.9	0595.1	0595.4	0595.6	0595.8	0596.1	0596.3
22.10	0596.5	0596.7	0597.0	0597.2	0597.4	0597.7	0597.9	0598.1	0598.4	0598.6
22.20	0598.8	0599.0	0599.3	0599.5	0599.7	0600.0	0600.2	0600.4	0600.7	0600.9
22.30	0601.1	0601.3	0601.6	0601.8	0602.0	0602.3	0602.5	0602.7	0602.9	0603.2
22.40	0603.4	0603.6	0603.9	0604.1	0604.3	0604.6	0604.8	0605.0	0605.2	0605.5
22.50	0605.7	0605.9	0606.2	0606.4	0606.6	0606.9	0607.1	0607.3	0607.5	0607.8
22.60	0608.0	0608.2	0608.5	0608.7	0608.9	0609.1	0609.4	0609.6	0609.8	0610.1
22.70	0610.3	0610.5	0610.7	0611.0	0611.2	0611.4	0611.7	0611.9	0612.1	0612.4
22.80	0612.6	0612.8	0613.0	0613.3	0613.5	0613.7	0614.0	0614.2	0614.4	0614.6
22.90	0614.9	0615.1	0615.3	0615.6	0615.8	0616.0	0616.2	0616.5	0616.7	0616.9
23.00	0617.2	0617.4	0617.6	0617.9	0618.1	0618.3	0618.5	0618.8	0619.0	0619.2
23.10	0619.5	0619.7	0619.9	0620.1	0620.4	0620.6	0620.8	0621.1	0621.3	0621.5
23.20	0621.7	0622.0	0622.2	0622.4	0622.7	0622.9	0623.1	0623.3	0623.6	0623.8
23.30	0624.0	0624.3	0624.5	0624.7	0624.9	0625.2	0625.4	0625.6	0625.9	0626.1
23.40	0626.3	0626.5	0626.8	0627.0	0627.2	0627.5	0627.7	0627.9	0628.1	0628.4
23.50	0628.6	0628.8	0629.1	0629.3	0629.5	0629.7	0630.0	0630.2	0630.4	0630.7
23.60	0630.9	0631.1	0631.3	0631.6	0631.8	0632.0	0632.3	0632.5	0632.7	0632.9
23.70	0633.2	0633.4	0633.6	0633.9	0634.1	0634.3	0634.5	0634.8	0635.0	0635.2
23.80	0635.5	0635.7	0635.9	0636.1	0636.4	0636.6	0636.8	0637.1	0637.3	0637.5
23.90	0637.7	0638.0	0638.2	0638.4	0638.6	0638.9	0639.1	0639.3	0639.6	0639.8
24.00	0640.0	0640.2	0640.5	0640.7	0640.9	0641.2	0641.4	0641.6	0641.8	0642.1
24.10	0642.3	0642.5	0642.8	0643.0	0643.2	0643.4	0643.7	0643.9	0644.1	0644.3
24.20	0644.6	0644.8	0645.0	0645.3	0645.5	0645.7	0645.9	0646.2	0646.4	0646.6
24.30	0646.9	0647.1	0647.3	0647.5	0647.8	0648.0	0648.2	0648.4	0648.7	0648.9
24.40	0649.1	0649.4	0649.6	0649.8	0650.0	0650.3	0650.5	0650.7	0651.0	0651.2
24.50	0651.4	0651.6	0651.9	0652.1	0652.3	0652.5	0652.8	0653.0	0653.2	0653.5
24.60	0653.7	0653.9	0654.1	0654.4	0654.6	0654.8	0655.0	0655.3	0655.5	0655.7
24.70	0656.0	0656.2	0656.4	0656.6	0656.9	0657.1	0657.3	0657.5	0657.8	0658.0
24.80	0658.2	0658.5	0658.7	0658.9	0659.1	0659.4	0659.6	0659.8	0660.0	0660.3
24.90	0660.5	0660.7	0661.0	0661.2	0661.4	0661.6	0661.9	0662.1	0662.3	0662.5
25.00	0662.8	0663.0	0663.2	0663.5	0663.7	0663.9	0664.1	0664.4	0664.6	0664.8
25.10	0665.0	0665.3	0665.5	0665.7	0666.0	0666.2	0666.4	0666.6	0666.9	0667.1
25.20	0667.3	0667.5	0667.8	0668.0	0668.2	0668.5	0668.7	0668.9	0669.1	0669.4
25.30	0669.6	0669.8	0670.0	0670.3	0670.5	0670.7	0670.9	0671.2	0671.4	0671.6
25.40	0671.9	0672.1	0672.3	0672.5	0672.8	0673.0	0673.2	0673.4	0673.7	0673.9
25.50	0674.1	0674.4	0674.6	0674.8	0675.0	0675.3	0675.5	0675.7	0675.9	0676.2
25.60	0676.4	0676.6	0676.8	0677.1	0677.3	0677.5	0677.7	0678.0	0678.2	0678.4
25.70	0678.7	0678.9	0679.1	0679.3	0679.6	0679.8	0680.0	0680.2	0680.5	0680.7
25.80	0680.9	0681.1	0681.4	0681.6	0681.8	0682.1	0682.3	0682.5	0682.7	0683.0
25.90	0683.2	0683.4	0683.6	0683.9	0684.1	0684.3	0684.5	0684.8	0685.0	0685.2
26.00	0685.5	0685.7	0685.9	0686.1	0686.4	0686.6	0686.8	0687.0	0687.3	0687.5
26.10	0687.7	0687.9	0688.2	0688.4	0688.6	0688.8	0689.1	0689.3	0689.5	0689.8
26.20	0690.0	0690.2	0690.4	0690.7	0690.9	0691.1	0691.3	0691.6	0691.8	0692.0
26.30	0692.2	0692.5	0692.7	0692.9	0693.1	0693.4	0693.6	0693.8	0694.0	0694.3
26.40	0694.5	0694.7	0695.0	0695.2	0695.4	0695.6	0695.9	0696.1	0696.3	0696.5
26.50	0696.8	0697.0	0697.2	0697.4	0697.7	0697.9	0698.1	0698.3	0698.6	0698.8
26.60	0699.0	0699.2	0699.5	0699.7	0699.9	0700.2	0700.4	0700.6	0700.8	0701.1
26.70	0701.3	0701.5	0701.7	0702.0	0702.2	0702.4	0702.6	0702.9	0703.1	0703.3
26.80	0703.5	0703.8	0704.0	0704.2	0704.4	0704.7	0704.9	0705.1	0705.3	0705.6
26.90	0705.8	0706.0	0706.2	0706.5	0706.7	0706.9	0707.2	0707.4	0707.6	0707.8

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
27.00	0703.1	0703.3	0703.5	0703.7	0709.0	0709.2	0709.4	0709.6	0709.9	0710.1
27.10	0710.3	0710.5	0710.8	0711.0	0711.2	0711.4	0711.7	0711.9	0712.1	0712.3
27.20	0712.6	0712.8	0713.0	0713.2	0713.5	0713.7	0713.9	0714.1	0714.4	0714.6
27.30	0714.8	0715.0	0715.3	0715.5	0715.7	0716.0	0716.2	0716.4	0716.6	0716.9
27.40	0717.1	0717.3	0717.5	0717.8	0718.0	0718.2	0718.4	0718.7	0718.9	0719.1
27.50	0719.3	0719.6	0719.8	0720.0	0720.2	0720.5	0720.7	0720.9	0721.1	0721.4
27.60	0721.6	0721.8	0722.0	0722.3	0722.5	0722.7	0722.9	0723.2	0723.4	0723.6
27.70	0723.8	0724.1	0724.3	0724.5	0724.7	0725.0	0725.2	0725.4	0725.6	0725.9
27.80	0726.1	0726.3	0726.5	0726.8	0727.0	0727.2	0727.4	0727.7	0727.9	0728.1
27.90	0728.3	0728.5	0728.8	0729.0	0729.2	0729.5	0729.7	0729.9	0730.1	0730.4
28.00	0730.6	0730.8	0731.0	0731.3	0731.5	0731.7	0731.9	0732.2	0732.4	0732.6
28.10	0732.8	0733.1	0733.3	0733.5	0733.7	0734.0	0734.2	0734.4	0734.6	0734.9
28.20	0735.1	0735.3	0735.5	0735.8	0735.0	0736.2	0736.4	0736.7	0736.9	0737.1
28.30	0737.3	0737.6	0737.8	0738.0	0738.2	0738.5	0738.7	0738.9	0739.1	0739.4
28.40	0739.6	0739.8	0740.0	0740.3	0740.5	0740.7	0740.9	0741.2	0741.4	0741.6
28.50	0741.8	0742.1	0742.3	0742.5	0742.7	0743.0	0743.2	0743.4	0743.6	0743.9
28.60	0744.1	0744.3	0744.5	0744.8	0745.0	0745.2	0745.4	0745.7	0745.9	0746.1
28.70	0746.3	0746.6	0746.8	0747.0	0747.2	0747.5	0747.7	0747.9	0748.1	0748.4
28.80	0748.6	0748.8	0749.0	0749.3	0749.5	0749.7	0749.9	0750.2	0750.4	0750.6
28.90	0750.8	0751.1	0751.3	0751.5	0751.7	0752.0	0752.2	0752.4	0752.6	0752.9
29.00	0753.1	0753.3	0753.5	0753.8	0754.0	0754.2	0754.4	0754.7	0754.9	0755.1
29.10	0755.3	0755.6	0755.8	0756.0	0756.2	0756.4	0756.7	0756.9	0757.1	0757.3
29.20	0757.6	0757.8	0758.0	0758.2	0758.5	0758.7	0758.9	0759.1	0759.4	0759.6
29.30	0759.8	0760.0	0760.3	0760.5	0760.7	0760.9	0761.2	0761.4	0761.6	0761.8
29.40	0762.1	0762.3	0762.5	0762.7	0763.0	0763.2	0763.4	0763.6	0763.9	0764.1
29.50	0764.3	0764.5	0764.8	0765.0	0765.2	0765.4	0765.7	0765.9	0766.1	0766.3
29.60	0766.5	0766.8	0767.0	0767.2	0767.4	0767.7	0767.9	0768.1	0768.3	0768.6
29.70	0768.8	0769.0	0769.2	0769.5	0769.7	0769.9	0770.1	0770.4	0770.6	0770.8
29.80	0771.0	0771.3	0771.5	0771.7	0771.9	0772.2	0772.4	0772.6	0772.9	0773.1
29.90	0773.3	0773.5	0773.7	0774.0	0774.2	0774.4	0774.6	0774.8	0775.1	0775.3
30.00	0775.5	0775.7	0776.0	0776.2	0776.4	0776.6	0776.9	0777.1	0777.3	0777.5
30.10	0777.8	0778.0	0778.2	0778.4	0778.7	0778.9	0779.1	0779.3	0779.6	0779.8
30.20	0780.0	0780.2	0780.5	0780.7	0780.9	0781.1	0781.3	0781.6	0781.8	0782.0
30.30	0782.2	0782.5	0782.7	0782.9	0783.1	0783.4	0783.6	0783.8	0784.0	0784.3
30.40	0784.5	0784.7	0784.9	0785.2	0785.4	0785.6	0785.8	0786.1	0786.3	0786.5
30.50	0786.7	0787.0	0787.2	0787.4	0787.6	0787.8	0788.1	0788.3	0788.5	0788.7
30.60	0789.0	0789.2	0789.4	0789.6	0789.9	0790.1	0790.3	0790.5	0790.8	0791.0
30.70	0791.2	0791.4	0791.7	0791.9	0792.1	0792.3	0792.6	0792.8	0793.0	0793.2
30.80	0793.4	0793.7	0793.9	0794.1	0794.3	0794.6	0794.8	0795.0	0795.2	0795.5
30.90	0795.7	0795.9	0796.1	0796.4	0796.6	0796.8	0797.0	0797.3	0797.5	0797.7
31.00	0797.9	0798.1	0798.4	0798.6	0798.8	0799.0	0799.3	0799.5	0799.7	0799.9
31.10	0800.2	0800.4	0800.6	0800.8	0801.1	0801.3	0801.5	0801.7	0802.0	0802.2
31.20	0802.4	0802.6	0802.9	0803.1	0803.3	0803.5	0803.7	0804.0	0804.2	0804.4
31.30	0804.6	0804.9	0805.1	0805.3	0805.5	0805.8	0806.0	0806.2	0806.4	0806.7
31.40	0806.9	0807.1	0807.3	0807.6	0807.8	0808.0	0808.2	0808.4	0808.7	0808.9
31.50	0809.1	0809.3	0809.6	0809.8	0810.0	0810.2	0810.5	0810.7	0810.9	0811.1
31.60	0811.4	0811.6	0811.8	0812.0	0812.3	0812.5	0812.7	0812.9	0813.1	0813.4
31.70	0813.6	0813.8	0814.0	0814.3	0814.5	0814.7	0814.9	0815.2	0815.4	0815.6
31.80	0815.8	0816.1	0816.3	0816.5	0816.7	0816.9	0817.2	0817.4	0817.6	0817.9
31.90	0818.1	0818.3	0818.5	0818.7	0819.0	0819.2	0819.4	0819.7	0819.9	0820.1

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
32.00	0820.3	0820.5	0820.8	0821.0	0821.2	0821.4	0821.6	0821.9	0822.1	0822.3
32.10	0822.5	0822.8	0823.0	0823.2	0823.4	0823.7	0823.9	0824.1	0824.3	0824.6
32.20	0824.8	0825.0	0825.2	0825.4	0825.7	0825.9	0826.1	0826.3	0826.6	0826.8
32.30	0827.0	0827.2	0827.5	0827.7	0827.9	0828.1	0828.4	0828.6	0828.8	0829.0
32.40	0829.3	0829.5	0829.7	0829.9	0830.1	0830.4	0830.6	0830.8	0831.0	0831.3
32.50	0831.5	0831.7	0831.9	0832.2	0832.4	0832.6	0832.8	0833.1	0833.3	0833.5
32.60	0833.7	0833.9	0834.2	0834.4	0834.6	0834.8	0835.1	0835.3	0835.5	0835.7
32.70	0836.0	0836.2	0836.4	0836.6	0836.9	0837.1	0837.3	0837.5	0837.7	0838.0
32.80	0838.2	0838.4	0838.6	0838.9	0839.1	0839.3	0839.5	0839.8	0840.0	0840.2
32.90	0840.4	0840.7	0840.9	0841.1	0841.3	0841.6	0841.8	0842.0	0842.2	0842.4
33.00	0842.7	0842.9	0843.1	0843.3	0843.6	0843.8	0844.0	0844.2	0844.5	0844.7
33.10	0844.9	0845.1	0845.4	0845.6	0845.8	0846.0	0846.2	0846.5	0846.7	0846.9
33.20	0847.1	0847.4	0847.6	0847.8	0848.0	0848.3	0848.5	0848.7	0848.9	0849.2
33.30	0849.4	0849.6	0849.8	0850.0	0850.3	0850.5	0850.7	0850.9	0851.2	0851.4
33.40	0851.6	0851.8	0852.1	0852.3	0852.5	0852.7	0853.0	0853.2	0853.4	0853.6
33.50	0853.8	0854.1	0854.3	0854.5	0854.7	0855.0	0855.2	0855.4	0855.6	0855.9
33.60	0856.1	0856.3	0856.5	0856.8	0857.0	0857.2	0857.4	0857.6	0857.9	0858.1
33.70	0858.3	0858.5	0858.8	0859.0	0859.2	0859.4	0859.7	0859.9	0860.1	0860.3
33.80	0860.6	0860.8	0861.0	0861.2	0861.4	0861.7	0861.9	0862.1	0862.3	0862.6
33.90	0862.8	0863.0	0863.2	0863.5	0863.7	0863.9	0864.1	0864.4	0864.6	0864.8
34.00	0865.0	0865.2	0865.5	0865.7	0865.9	0866.1	0866.4	0866.6	0866.8	0867.0
34.10	0867.3	0867.5	0867.7	0867.9	0868.2	0868.4	0868.6	0868.8	0869.0	0869.3
34.20	0869.5	0869.7	0869.9	0870.2	0870.4	0870.6	0870.8	0871.1	0871.3	0871.5
34.30	0871.7	0872.0	0872.2	0872.4	0872.6	0872.8	0873.1	0873.3	0873.5	0873.7
34.40	0874.0	0874.2	0874.4	0874.6	0874.9	0875.1	0875.3	0875.5	0875.8	0876.0
34.50	0876.2	0876.4	0876.6	0876.9	0877.1	0877.3	0877.5	0877.8	0878.0	0878.2
34.60	0878.4	0878.7	0878.9	0879.1	0879.3	0879.6	0879.8	0880.0	0880.2	0880.4
34.70	0880.7	0880.9	0881.1	0881.3	0881.6	0881.8	0882.0	0882.2	0882.5	0882.7
34.80	0882.9	0883.1	0883.4	0883.6	0883.8	0884.0	0884.3	0884.5	0884.7	0884.9
34.90	0885.1	0885.4	0885.6	0885.8	0886.0	0886.3	0886.5	0886.7	0886.9	0887.2
35.00	0887.4	0887.6	0887.8	0888.1	0888.3	0888.5	0888.7	0888.9	0889.2	0889.4
35.10	0889.6	0889.8	0890.1	0890.3	0890.5	0890.7	0891.0	0891.2	0891.4	0891.6
35.20	0891.9	0892.1	0892.3	0892.5	0892.7	0893.0	0893.2	0893.4	0893.6	0893.9
35.30	0894.1	0894.3	0894.5	0894.8	0895.0	0895.2	0895.4	0895.7	0895.9	0896.1
35.40	0896.3	0896.6	0896.8	0897.0	0897.2	0897.4	0897.7	0897.9	0898.1	0898.3
35.50	0898.6	0898.8	0899.0	0899.2	0899.5	0899.7	0899.9	0900.1	0900.5	0900.7
35.60	0900.9	0901.1	0901.4	0901.6	0901.8	0902.0	0902.3	0902.5	0902.7	0902.9
35.70	0903.1	0903.4	0903.6	0903.8	0904.0	0904.3	0904.5	0904.7	0904.9	0905.1
35.80	0905.4	0905.6	0905.8	0906.0	0906.2	0906.5	0906.7	0906.9	0907.1	0907.4
35.90	0907.6	0907.8	0908.0	0908.2	0908.5	0908.7	0908.9	0909.1	0909.4	0909.6
36.00	0909.8	0910.0	0910.2	0910.5	0910.7	0910.9	0911.1	0911.4	0911.6	0911.8
36.10	0912.0	0912.2	0912.5	0912.7	0912.9	0913.1	0913.3	0913.6	0913.8	0914.0
36.20	0914.2	0914.5	0914.7	0914.9	0915.1	0915.3	0915.6	0915.8	0916.0	0916.2
36.30	0916.5	0916.7	0916.9	0917.1	0917.3	0917.6	0917.8	0918.0	0918.2	0918.4
36.40	0918.7	0918.9	0919.1	0919.3	0919.6	0919.8	0920.0	0920.2	0920.4	0920.7
36.50	0920.9	0921.1	0921.3	0921.6	0921.8	0922.0	0922.2	0922.4	0922.7	0922.9
36.60	0923.1	0923.3	0923.5	0923.8	0924.0	0924.2	0924.4	0924.7	0924.9	0925.1
36.70	0925.3	0925.5	0925.7	0926.0	0926.2	0926.4	0926.7	0926.9	0927.1	0927.3
36.80	0927.5	0927.7	0928.0	0928.2	0928.4	0928.6	0928.9	0929.1	0929.3	0929.5
36.90	0929.7	0929.9	0930.2	0930.4	0930.6	0930.9	0931.1	0931.3	0931.5	0931.8

Temperature, °F



TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
37.00	0932.0	0932.2	0932.4	0932.6	0932.9	0933.1	0933.3	0933.5	0933.8	0934.0
37.10	0934.2	0934.4	0934.6	0934.9	0935.1	0935.3	0935.5	0935.7	0936.0	0936.2
37.20	0936.4	0936.6	0936.9	0937.1	0937.3	0937.5	0937.7	0938.0	0938.2	0938.4
37.30	0938.6	0938.9	0939.1	0939.3	0939.5	0939.7	0940.0	0940.2	0940.4	0940.6
37.40	0940.8	0941.1	0941.3	0941.5	0941.7	0942.0	0942.2	0942.4	0942.6	0942.8
37.50	0943.1	0943.3	0943.5	0943.7	0944.0	0944.2	0944.4	0944.6	0944.8	0945.1
37.60	0945.3	0945.5	0945.7	0946.0	0946.2	0946.4	0946.6	0946.8	0947.1	0947.3
37.70	0947.5	0947.7	0947.9	0948.2	0948.4	0948.6	0948.8	0949.1	0949.3	0949.5
37.80	0949.7	0949.9	0950.2	0950.4	0950.6	0950.8	0951.1	0951.3	0951.5	0951.7
37.90	0951.9	0952.2	0952.4	0952.6	0952.8	0953.0	0953.3	0953.5	0953.7	0953.9
38.00	0954.2	0954.4	0954.6	0954.8	0955.0	0955.3	0955.5	0955.7	0955.9	0956.2
38.10	0956.4	0956.6	0956.8	0957.0	0957.3	0957.5	0957.7	0957.9	0958.2	0958.4
38.20	0958.6	0958.8	0959.0	0959.3	0959.5	0959.7	0959.9	0960.1	0960.4	0960.6
38.30	0960.8	0961.0	0961.3	0961.5	0961.7	0961.9	0962.1	0962.4	0962.6	0962.8
38.40	0963.0	0963.3	0963.5	0963.7	0963.9	0964.1	0964.4	0964.6	0964.8	0965.0
38.50	0965.3	0965.5	0965.7	0965.9	0966.1	0966.4	0966.6	0966.8	0967.0	0967.2
38.60	0967.5	0967.7	0967.9	0968.1	0968.4	0968.6	0968.8	0969.0	0969.2	0969.5
38.70	0969.7	0969.9	0970.1	0970.4	0970.6	0970.8	0971.0	0971.2	0971.5	0971.7
38.80	0971.9	0972.1	0972.4	0972.6	0972.8	0973.0	0973.2	0973.5	0973.7	0973.9
38.90	0974.1	0974.3	0974.6	0974.8	0975.0	0975.2	0975.5	0975.7	0975.9	0976.1
39.00	0976.3	0976.6	0976.8	0977.0	0977.2	0977.5	0977.7	0977.9	0978.1	0978.3
39.10	0978.6	0978.8	0979.0	0979.2	0979.5	0979.7	0979.9	0980.1	0980.3	0980.6
39.20	0980.8	0981.0	0981.2	0981.5	0981.7	0981.9	0982.1	0982.3	0982.6	0982.8
39.30	0983.0	0983.2	0983.4	0983.7	0983.9	0984.1	0984.3	0984.6	0984.8	0985.0
39.40	0985.2	0985.4	0985.7	0985.9	0986.1	0986.3	0986.6	0986.8	0987.0	0987.2
39.50	0987.4	0987.7	0987.9	0988.1	0988.3	0988.6	0988.8	0989.0	0989.2	0989.4
39.60	0989.7	0989.9	0990.1	0990.3	0990.6	0990.8	0991.0	0991.2	0991.4	0991.7
39.70	0991.9	0992.1	0992.3	0992.5	0992.8	0993.0	0993.2	0993.4	0993.7	0993.9
39.80	0994.1	0994.3	0994.5	0994.8	0995.0	0995.2	0995.4	0995.7	0995.9	0996.1
39.90	0996.3	0996.5	0996.8	0997.0	0997.2	0997.4	0997.7	0997.9	0998.1	0998.3
40.00	0998.5	0998.8	0999.0	0999.2	0999.4	0999.7	0999.9	1000.1	1000.3	1000.5
40.10	1000.8	1001.0	1001.2	1001.4	1001.7	1001.9	1002.1	1002.3	1002.5	1002.8
40.20	1003.0	1003.2	1003.4	1003.6	1003.9	1004.1	1004.3	1004.5	1004.8	1005.0
40.30	1005.2	1005.4	1005.6	1005.9	1006.1	1006.3	1006.5	1006.8	1007.0	1007.2
40.40	1007.4	1007.6	1007.9	1008.1	1008.3	1008.5	1008.8	1009.0	1009.2	1009.4
40.50	1009.6	1009.9	1010.1	1010.3	1010.5	1010.8	1011.0	1011.2	1011.4	1011.6
40.60	1011.9	1012.1	1012.3	1012.5	1012.8	1013.0	1013.2	1013.4	1013.6	1013.9
40.70	1014.1	1014.3	1014.5	1014.8	1015.0	1015.2	1015.4	1015.6	1015.9	1016.1
40.80	1016.3	1016.5	1016.8	1017.0	1017.2	1017.4	1017.6	1017.9	1018.1	1018.3
40.90	1018.5	1018.8	1019.0	1019.2	1019.4	1019.6	1019.9	1020.1	1020.3	1020.5
41.00	1020.8	1021.0	1021.2	1021.4	1021.6	1021.9	1022.1	1022.3	1022.5	1022.7
41.10	1023.0	1023.2	1023.4	1023.6	1023.9	1024.1	1024.3	1024.5	1024.7	1025.0
41.20	1025.2	1025.4	1025.6	1025.9	1026.1	1026.3	1026.5	1026.7	1027.0	1027.2
41.30	1027.4	1027.6	1027.9	1028.1	1028.3	1028.5	1028.7	1029.0	1029.2	1029.4
41.40	1029.6	1029.9	1030.1	1030.3	1030.5	1030.7	1031.0	1031.2	1031.4	1031.6
41.50	1031.7	1032.1	1032.3	1032.5	1032.7	1033.0	1033.2	1033.4	1033.6	1033.9
41.60	1034.1	1034.3	1034.5	1034.7	1035.0	1035.2	1035.4	1035.6	1035.9	1036.1
41.70	1036.3	1036.5	1036.7	1037.0	1037.2	1037.4	1037.6	1037.9	1038.1	1038.3
41.80	1038.5	1038.7	1039.0	1039.2	1039.4	1039.6	1039.9	1040.1	1040.3	1040.5
41.90	1040.7	1040.9	1041.2	1041.4	1041.6	1041.9	1042.1	1042.3	1042.5	1042.7

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
42.00	1045.0	1045.1	1045.2	1045.3	1045.4	1045.5	1045.6	1045.7	1045.8	1045.9
42.10	1045.9	1046.0	1046.1	1046.2	1046.3	1046.4	1046.5	1046.6	1046.7	1046.8
42.20	1047.4	1047.5	1047.6	1047.7	1047.8	1047.9	1048.0	1048.1	1048.2	1048.3
42.30	1049.0	1049.1	1049.2	1049.3	1049.4	1049.5	1049.6	1049.7	1049.8	1049.9
42.40	1051.9	1052.0	1052.1	1052.2	1052.3	1052.4	1052.5	1052.6	1052.7	1052.8
42.50	1054.1	1054.2	1054.3	1054.4	1054.5	1054.6	1054.7	1054.8	1054.9	1055.0
42.60	1056.3	1056.4	1056.5	1056.6	1056.7	1056.8	1056.9	1057.0	1057.1	1057.2
42.70	1058.5	1058.6	1058.7	1058.8	1058.9	1059.0	1059.1	1059.2	1059.3	1059.4
42.80	1060.8	1060.9	1061.0	1061.1	1061.2	1061.3	1061.4	1061.5	1061.6	1061.7
42.90	1063.0	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.7	1063.8	1063.9
43.00	1065.1	1065.2	1065.3	1065.4	1065.5	1065.6	1065.7	1065.8	1065.9	1066.0
43.10	1067.4	1067.5	1067.6	1067.7	1067.8	1067.9	1068.0	1068.1	1068.2	1068.3
43.20	1069.7	1069.8	1069.9	1070.0	1070.1	1070.2	1070.3	1070.4	1070.5	1070.6
43.30	1072.0	1072.1	1072.2	1072.3	1072.4	1072.5	1072.6	1072.7	1072.8	1072.9
43.40	1074.3	1074.4	1074.5	1074.6	1074.7	1074.8	1074.9	1075.0	1075.1	1075.2
43.50	1076.5	1076.6	1076.7	1076.8	1076.9	1077.0	1077.1	1077.2	1077.3	1077.4
43.60	1078.8	1078.9	1079.0	1079.1	1079.2	1079.3	1079.4	1079.5	1079.6	1079.7
43.70	1081.0	1081.1	1081.2	1081.3	1081.4	1081.5	1081.6	1081.7	1081.8	1081.9
43.80	1083.3	1083.4	1083.5	1083.6	1083.7	1083.8	1083.9	1084.0	1084.1	1084.2
43.90	1085.5	1085.6	1085.7	1085.8	1085.9	1086.0	1086.1	1086.2	1086.3	1086.4
44.00	1087.7	1087.8	1087.9	1088.0	1088.1	1088.2	1088.3	1088.4	1088.5	1088.6
44.10	1089.9	1090.0	1090.1	1090.2	1090.3	1090.4	1090.5	1090.6	1090.7	1090.8
44.20	1092.2	1092.3	1092.4	1092.5	1092.6	1092.7	1092.8	1092.9	1093.0	1093.1
44.30	1094.4	1094.5	1094.6	1094.7	1094.8	1094.9	1095.0	1095.1	1095.2	1095.3
44.40	1096.6	1096.7	1096.8	1096.9	1097.0	1097.1	1097.2	1097.3	1097.4	1097.5
44.50	1098.8	1098.9	1099.0	1099.1	1099.2	1099.3	1099.4	1099.5	1099.6	1099.7
44.60	1101.0	1101.1	1101.2	1101.3	1101.4	1101.5	1101.6	1101.7	1101.8	1101.9
44.70	1103.2	1103.3	1103.4	1103.5	1103.6	1103.7	1103.8	1103.9	1104.0	1104.1
44.80	1105.4	1105.5	1105.6	1105.7	1105.8	1105.9	1106.0	1106.1	1106.2	1106.3
44.90	1107.6	1107.7	1107.8	1107.9	1108.0	1108.1	1108.2	1108.3	1108.4	1108.5
45.00	1109.8	1109.9	1110.0	1110.1	1110.2	1110.3	1110.4	1110.5	1110.6	1110.7
45.10	1112.0	1112.1	1112.2	1112.3	1112.4	1112.5	1112.6	1112.7	1112.8	1112.9
45.20	1114.2	1114.3	1114.4	1114.5	1114.6	1114.7	1114.8	1114.9	1115.0	1115.1
45.30	1116.4	1116.5	1116.6	1116.7	1116.8	1116.9	1117.0	1117.1	1117.2	1117.3
45.40	1118.6	1118.7	1118.8	1118.9	1119.0	1119.1	1119.2	1119.3	1119.4	1119.5
45.50	1120.8	1120.9	1121.0	1121.1	1121.2	1121.3	1121.4	1121.5	1121.6	1121.7
45.60	1123.0	1123.1	1123.2	1123.3	1123.4	1123.5	1123.6	1123.7	1123.8	1123.9
45.70	1125.2	1125.3	1125.4	1125.5	1125.6	1125.7	1125.8	1125.9	1126.0	1126.1
45.80	1127.4	1127.5	1127.6	1127.7	1127.8	1127.9	1128.0	1128.1	1128.2	1128.3
45.90	1129.6	1129.7	1129.8	1129.9	1130.0	1130.1	1130.2	1130.3	1130.4	1130.5
46.00	1131.8	1131.9	1132.0	1132.1	1132.2	1132.3	1132.4	1132.5	1132.6	1132.7
46.10	1134.0	1134.1	1134.2	1134.3	1134.4	1134.5	1134.6	1134.7	1134.8	1134.9
46.20	1136.2	1136.3	1136.4	1136.5	1136.6	1136.7	1136.8	1136.9	1137.0	1137.1
46.30	1138.4	1138.5	1138.6	1138.7	1138.8	1138.9	1139.0	1139.1	1139.2	1139.3
46.40	1140.6	1140.7	1140.8	1140.9	1141.0	1141.1	1141.2	1141.3	1141.4	1141.5
46.50	1142.8	1142.9	1143.0	1143.1	1143.2	1143.3	1143.4	1143.5	1143.6	1143.7
46.60	1145.0	1145.1	1145.2	1145.3	1145.4	1145.5	1145.6	1145.7	1145.8	1145.9
46.70	1147.2	1147.3	1147.4	1147.5	1147.6	1147.7	1147.8	1147.9	1148.0	1148.1
46.80	1149.4	1149.5	1149.6	1149.7	1149.8	1149.9	1150.0	1150.1	1150.2	1150.3
46.90	1151.6	1151.7	1151.8	1151.9	1152.0	1152.1	1152.2	1152.3	1152.4	1152.5

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
47.00	1154.3	1154.6	1154.8	1155.0	1155.2	1155.5	1155.7	1155.9	1156.1	1156.3
47.10	1156.6	1156.8	1157.0	1157.2	1157.5	1157.7	1157.9	1158.1	1158.4	1158.6
47.20	1158.8	1159.0	1159.2	1159.5	1159.7	1159.9	1160.1	1160.4	1160.6	1160.8
47.30	1161.0	1161.3	1161.5	1161.7	1161.9	1162.2	1162.4	1162.6	1162.8	1163.0
47.40	1163.3	1163.5	1163.7	1163.9	1164.2	1164.4	1164.6	1164.8	1165.1	1165.3
47.50	1165.5	1165.7	1165.9	1166.2	1166.4	1166.6	1166.8	1167.1	1167.3	1167.5
47.60	1167.7	1168.0	1168.2	1168.4	1168.6	1168.9	1169.1	1169.3	1169.5	1169.7
47.70	1170.0	1170.2	1170.4	1170.6	1170.9	1171.1	1171.3	1171.5	1171.8	1172.0
47.80	1172.2	1172.4	1172.7	1172.9	1173.1	1173.3	1173.5	1173.8	1174.0	1174.2
47.90	1174.4	1174.7	1174.9	1175.1	1175.3	1175.6	1175.8	1176.0	1176.2	1176.5
48.00	1176.7	1176.9	1177.1	1177.3	1177.6	1177.8	1178.0	1178.2	1178.5	1178.7
48.10	1178.9	1179.1	1179.4	1179.6	1179.8	1180.0	1180.3	1180.5	1180.7	1180.9
48.20	1181.1	1181.4	1181.6	1181.8	1182.0	1182.3	1182.5	1182.7	1182.9	1183.2
48.30	1183.4	1183.6	1183.8	1184.1	1184.3	1184.5	1184.7	1184.9	1185.2	1185.4
48.40	1185.6	1185.8	1186.1	1186.3	1186.5	1186.7	1187.0	1187.2	1187.4	1187.6
48.50	1187.9	1188.1	1188.3	1188.5	1188.8	1189.0	1189.2	1189.4	1189.6	1189.9
48.60	1190.1	1190.3	1190.5	1190.8	1191.0	1191.2	1191.4	1191.7	1191.9	1192.1
48.70	1192.3	1192.6	1192.8	1193.0	1193.2	1193.5	1193.7	1193.9	1194.1	1194.3
48.80	1194.6	1194.8	1195.0	1195.2	1195.5	1195.7	1195.9	1196.1	1196.4	1196.6
48.90	1196.8	1197.0	1197.3	1197.5	1197.7	1197.9	1198.1	1198.4	1198.6	1198.8
49.00	1199.0	1199.3	1199.5	1199.7	1199.9	1200.2	1200.4	1200.6	1200.8	1201.1
49.10	1201.3	1201.5	1201.7	1202.0	1202.2	1202.4	1202.6	1202.9	1203.1	1203.3
49.20	1203.5	1203.7	1204.0	1204.2	1204.4	1204.6	1204.9	1205.1	1205.3	1205.5
49.30	1205.8	1206.0	1206.2	1206.4	1206.7	1206.9	1207.1	1207.3	1207.6	1207.8
49.40	1208.0	1208.2	1208.4	1208.7	1208.9	1209.1	1209.3	1209.6	1209.8	1210.0
49.50	1210.2	1210.5	1210.7	1210.9	1211.1	1211.4	1211.6	1211.8	1212.0	1212.3
49.60	1212.5	1212.7	1212.9	1213.2	1213.4	1213.6	1213.8	1214.0	1214.3	1214.5
49.70	1214.7	1214.9	1215.2	1215.4	1215.6	1215.8	1216.1	1216.3	1216.5	1216.7
49.80	1217.0	1217.2	1217.4	1217.6	1217.9	1218.1	1218.3	1218.5	1218.8	1219.0
49.90	1219.2	1219.4	1219.7	1219.9	1220.1	1220.3	1220.5	1220.8	1221.0	1221.2
50.00	1221.4	1221.7	1221.9	1222.1	1222.3	1222.6	1222.8	1223.0	1223.2	1223.5
50.10	1223.7	1223.9	1224.1	1224.4	1224.6	1224.8	1225.0	1225.3	1225.5	1225.7
50.20	1225.9	1226.2	1226.4	1226.6	1226.8	1227.0	1227.3	1227.5	1227.7	1227.9
50.30	1228.2	1228.4	1228.6	1228.8	1229.1	1229.3	1229.5	1229.7	1230.0	1230.2
50.40	1230.4	1230.6	1230.9	1231.1	1231.3	1231.5	1231.8	1232.0	1232.2	1232.4
50.50	1232.7	1232.9	1233.1	1233.3	1233.6	1233.8	1234.0	1234.2	1234.4	1234.7
50.60	1234.9	1235.1	1235.3	1235.6	1235.8	1236.0	1236.2	1236.5	1236.7	1236.9
50.70	1237.1	1237.4	1237.6	1237.8	1238.0	1238.3	1238.5	1238.7	1238.9	1239.2
50.80	1239.4	1239.6	1239.8	1240.1	1240.3	1240.5	1240.7	1241.0	1241.2	1241.4
50.90	1241.6	1241.9	1242.1	1242.3	1242.5	1242.8	1243.0	1243.2	1243.4	1243.6
51.00	1243.9	1244.1	1244.3	1244.5	1244.8	1245.0	1245.2	1245.4	1245.7	1245.9
51.10	1246.1	1246.3	1246.6	1246.8	1247.0	1247.2	1247.5	1247.7	1247.9	1248.1
51.20	1248.4	1248.6	1248.8	1249.0	1249.3	1249.5	1249.7	1249.9	1250.2	1250.4
51.30	1250.6	1250.8	1251.1	1251.3	1251.5	1251.7	1252.0	1252.2	1252.4	1252.6
51.40	1252.9	1253.1	1253.3	1253.5	1253.8	1254.0	1254.2	1254.4	1254.7	1254.9
51.50	1255.1	1255.3	1255.5	1255.8	1256.0	1256.2	1256.4	1256.7	1256.9	1257.1
51.60	1257.3	1257.6	1257.8	1258.0	1258.2	1258.5	1258.7	1258.9	1259.1	1259.4
51.70	1259.5	1259.8	1260.0	1260.3	1260.5	1260.7	1260.9	1261.2	1261.4	1261.6
51.80	1261.8	1262.1	1262.3	1262.5	1262.7	1262.9	1263.2	1263.4	1263.6	1263.9
51.90	1264.1	1264.3	1264.5	1264.7	1264.9	1265.2	1265.4	1265.7	1265.9	1266.1

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.90	.01	.02	.03	.04	.05	.06	.07	.08	.09
52.90	1266.3	1265.6	1265.1	1264.7	1264.3	1264.0	1263.7	1263.4	1263.1	1262.8
52.10	1263.6	1263.3	1263.0	1262.5	1262.1	1261.7	1261.4	1261.1	1260.8	1260.6
52.20	1270.8	1271.1	1271.3	1271.5	1271.7	1272.0	1272.2	1272.4	1272.6	1272.9
52.30	1273.1	1273.3	1273.5	1273.8	1274.0	1274.2	1274.4	1274.7	1274.9	1275.1
52.40	1275.3	1275.6	1275.8	1276.0	1276.2	1276.5	1276.7	1276.9	1277.1	1277.4
52.50	1277.6	1277.8	1278.0	1278.3	1278.5	1278.7	1278.9	1279.2	1279.4	1279.6
52.60	1279.8	1280.1	1280.3	1280.5	1280.7	1281.0	1281.2	1281.4	1281.6	1281.9
52.70	1282.1	1282.3	1282.5	1282.6	1283.0	1283.2	1283.4	1283.7	1283.9	1284.1
52.80	1284.3	1284.6	1284.8	1285.0	1285.2	1285.5	1285.7	1285.9	1286.1	1286.4
52.90	1286.6	1286.8	1287.0	1287.3	1287.5	1287.7	1287.9	1288.2	1288.4	1288.6
53.00	1288.8	1289.1	1289.3	1289.5	1289.7	1289.9	1290.2	1290.4	1290.6	1290.9
53.10	1291.1	1291.3	1291.5	1291.8	1292.0	1292.2	1292.4	1292.7	1292.9	1293.1
53.20	1293.3	1293.6	1293.8	1294.0	1294.2	1294.5	1294.7	1294.9	1295.1	1295.4
53.30	1295.6	1295.8	1296.0	1296.3	1296.5	1296.7	1296.9	1297.2	1297.4	1297.6
53.40	1297.8	1298.1	1298.3	1298.5	1298.7	1299.0	1299.2	1299.4	1299.6	1299.9
53.50	1300.1	1300.3	1300.6	1300.8	1301.0	1301.2	1301.5	1301.7	1301.9	1302.1
53.60	1302.4	1302.6	1302.8	1303.0	1303.3	1303.5	1303.7	1303.9	1304.2	1304.4
53.70	1304.6	1304.8	1305.1	1305.3	1305.5	1305.7	1306.0	1306.2	1306.4	1306.6
53.80	1306.9	1307.1	1307.3	1307.5	1307.8	1308.0	1308.2	1308.4	1308.7	1308.9
53.90	1309.1	1309.3	1309.6	1309.8	1310.0	1310.2	1310.5	1310.7	1310.9	1311.1
54.00	1311.4	1311.6	1311.8	1312.1	1312.3	1312.5	1312.7	1313.0	1313.2	1313.4
54.10	1313.6	1313.9	1314.1	1314.3	1314.5	1314.8	1315.0	1315.2	1315.4	1315.7
54.20	1315.9	1316.1	1316.3	1316.6	1316.8	1317.0	1317.2	1317.5	1317.7	1317.9
54.30	1318.1	1318.4	1318.6	1318.8	1319.0	1319.3	1319.5	1319.7	1319.9	1320.2
54.40	1320.4	1320.6	1320.9	1321.1	1321.3	1321.5	1321.8	1322.0	1322.2	1322.4
54.50	1322.7	1322.9	1323.1	1323.3	1323.6	1323.8	1324.0	1324.2	1324.5	1324.7
54.60	1324.9	1325.1	1325.4	1325.6	1325.8	1326.0	1326.3	1326.5	1326.7	1326.9
54.70	1327.2	1327.4	1327.6	1327.9	1328.1	1328.3	1328.5	1328.8	1329.0	1329.2
54.80	1329.4	1329.7	1329.9	1330.1	1330.3	1330.6	1330.8	1331.0	1331.2	1331.5
54.90	1331.7	1331.9	1332.1	1332.4	1332.6	1332.8	1333.0	1333.3	1333.5	1333.7
55.00	1334.0	1334.2	1334.4	1334.6	1334.9	1335.1	1335.3	1335.5	1335.8	1336.0
55.10	1336.2	1336.4	1336.7	1336.9	1337.1	1337.3	1337.6	1337.8	1338.0	1338.2
55.20	1338.5	1338.7	1338.9	1339.2	1339.4	1339.6	1339.8	1340.1	1340.3	1340.5
55.30	1340.7	1341.0	1341.2	1341.4	1341.6	1341.9	1342.1	1342.3	1342.5	1342.8
55.40	1343.0	1343.2	1343.4	1343.7	1343.9	1344.1	1344.4	1344.6	1344.8	1345.0
55.50	1345.3	1345.5	1345.7	1345.9	1346.2	1346.4	1346.6	1346.8	1347.1	1347.3
55.60	1347.5	1347.7	1348.0	1348.2	1348.5	1348.7	1348.9	1349.1	1349.3	1349.6
55.70	1349.8	1350.0	1350.2	1350.5	1350.7	1350.9	1351.1	1351.4	1351.6	1351.8
55.80	1352.0	1352.3	1352.5	1352.7	1353.0	1353.2	1353.4	1353.6	1353.9	1354.1
55.90	1354.3	1354.5	1354.7	1355.0	1355.2	1355.4	1355.7	1355.9	1356.1	1356.3
56.00	1356.6	1356.8	1357.0	1357.3	1357.5	1357.7	1357.9	1358.2	1358.4	1358.6
56.10	1358.8	1359.1	1359.3	1359.5	1359.7	1360.0	1360.2	1360.4	1360.6	1360.9
56.20	1361.1	1361.3	1361.6	1361.8	1362.0	1362.2	1362.5	1362.7	1362.9	1363.1
56.30	1363.4	1363.6	1363.8	1364.0	1364.3	1364.5	1364.7	1365.0	1365.2	1365.4
56.40	1365.6	1365.9	1366.1	1366.3	1366.5	1366.7	1367.0	1367.2	1367.4	1367.7
56.50	1367.9	1368.1	1368.4	1368.6	1368.8	1369.0	1369.3	1369.5	1369.7	1369.9
56.60	1370.2	1370.4	1370.6	1370.8	1371.1	1371.3	1371.5	1371.8	1372.0	1372.2
56.70	1372.4	1372.7	1372.9	1373.1	1373.3	1373.6	1373.8	1374.0	1374.2	1374.5
56.80	1374.7	1374.9	1375.2	1375.4	1375.6	1375.8	1376.1	1376.3	1376.5	1376.7
56.90	1377.0	1377.2	1377.4	1377.7	1377.9	1378.1	1378.3	1378.6	1378.8	1379.0

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
57.00	1379.2	1379.9	1379.7	1379.9	1380.1	1380.4	1380.6	1380.8	1381.1	1381.3
57.10	1381.5	1381.7	1382.0	1382.2	1382.4	1382.6	1382.9	1383.1	1383.3	1383.5
57.20	1383.8	1384.0	1384.2	1384.5	1384.7	1384.9	1385.1	1385.4	1385.6	1385.8
57.30	1386.0	1386.3	1386.5	1386.7	1387.0	1387.2	1387.4	1387.6	1387.9	1388.1
57.40	1388.3	1388.5	1388.8	1389.0	1389.2	1389.5	1389.7	1389.9	1390.1	1390.4
57.50	1390.6	1390.8	1391.0	1391.3	1391.5	1391.7	1392.0	1392.2	1392.4	1392.6
57.60	1392.9	1393.1	1393.3	1393.5	1393.8	1394.0	1394.2	1394.5	1394.7	1394.9
57.70	1395.1	1395.4	1395.6	1395.8	1396.0	1396.3	1396.5	1396.7	1396.9	1397.2
57.80	1397.4	1397.6	1397.9	1398.1	1398.3	1398.5	1398.8	1399.0	1399.2	1399.4
57.90	1399.7	1399.9	1400.1	1400.4	1400.6	1400.8	1401.0	1401.3	1401.5	1401.7
58.00	1402.0	1402.2	1402.4	1402.6	1402.9	1403.1	1403.3	1403.5	1403.8	1404.0
58.10	1404.2	1404.5	1404.7	1404.9	1405.1	1405.4	1405.6	1405.8	1406.0	1406.3
58.20	1406.5	1406.7	1407.0	1407.2	1407.4	1407.6	1407.9	1408.1	1408.3	1408.5
58.30	1408.8	1409.0	1409.2	1409.5	1409.7	1409.9	1410.1	1410.4	1410.6	1410.8
58.40	1411.0	1411.3	1411.5	1411.7	1412.0	1412.2	1412.4	1412.6	1412.9	1413.1
58.50	1413.3	1413.6	1413.8	1414.0	1414.2	1414.5	1414.7	1414.9	1415.1	1415.4
58.60	1415.6	1415.8	1416.1	1416.3	1416.5	1416.7	1417.0	1417.2	1417.4	1417.6
58.70	1417.9	1418.1	1418.3	1418.6	1418.8	1419.0	1419.2	1419.5	1419.7	1419.9
58.80	1420.2	1420.4	1420.6	1420.8	1421.1	1421.3	1421.5	1421.7	1422.0	1422.2
58.90	1422.4	1422.7	1422.9	1423.1	1423.3	1423.6	1423.8	1424.0	1424.3	1424.5
59.00	1424.7	1424.9	1425.2	1425.4	1425.6	1425.9	1426.1	1426.3	1426.5	1426.8
59.10	1427.0	1427.2	1427.4	1427.7	1427.9	1428.1	1428.4	1428.6	1428.8	1429.0
59.20	1429.2	1429.5	1429.7	1430.0	1430.2	1430.4	1430.6	1430.9	1431.1	1431.3
59.30	1431.5	1431.8	1432.0	1432.2	1432.5	1432.7	1432.9	1433.1	1433.4	1433.6
59.40	1433.8	1434.1	1434.3	1434.5	1434.7	1435.0	1435.2	1435.4	1435.7	1435.9
59.50	1436.1	1436.3	1436.6	1436.8	1437.0	1437.3	1437.5	1437.7	1437.9	1438.2
59.60	1438.4	1438.6	1438.8	1439.1	1439.3	1439.5	1439.8	1440.0	1440.2	1440.4
59.70	1440.7	1440.9	1441.1	1441.4	1441.6	1441.8	1442.0	1442.3	1442.5	1442.7
59.80	1443.0	1443.2	1443.4	1443.6	1443.9	1444.1	1444.3	1444.6	1444.8	1445.0
59.90	1445.2	1445.5	1445.7	1445.9	1446.2	1446.4	1446.6	1446.8	1447.1	1447.3
60.00	1447.5	1447.8	1448.0	1448.2	1448.4	1448.7	1448.9	1449.1	1449.3	1449.6
60.10	1449.8	1450.0	1450.3	1450.5	1450.7	1450.9	1451.2	1451.4	1451.6	1451.9
60.20	1452.1	1452.3	1452.5	1452.8	1453.0	1453.2	1453.5	1453.7	1453.9	1454.1
60.30	1454.4	1454.6	1454.8	1455.1	1455.3	1455.5	1455.7	1456.0	1456.2	1456.4
60.40	1456.7	1456.9	1457.1	1457.3	1457.6	1457.8	1458.0	1458.3	1458.5	1458.7
60.50	1458.9	1459.2	1459.4	1459.6	1459.9	1460.1	1460.3	1460.5	1460.8	1461.0
60.60	1461.2	1461.5	1461.7	1461.9	1462.1	1462.4	1462.6	1462.8	1463.1	1463.3
60.70	1463.5	1463.8	1464.0	1464.2	1464.4	1464.7	1464.9	1465.1	1465.4	1465.6
60.80	1465.8	1466.0	1466.3	1466.5	1466.7	1467.0	1467.2	1467.4	1467.6	1467.9
60.90	1468.1	1468.3	1468.6	1468.8	1469.0	1469.2	1469.5	1469.7	1469.9	1470.2
61.00	1470.4	1470.6	1470.8	1471.1	1471.3	1471.5	1471.8	1472.0	1472.2	1472.4
61.10	1472.7	1472.9	1473.1	1473.4	1473.6	1473.8	1474.0	1474.3	1474.5	1474.7
61.20	1475.0	1475.2	1475.4	1475.7	1475.9	1476.1	1476.3	1476.6	1476.8	1477.0
61.30	1477.3	1477.5	1477.7	1477.9	1478.1	1478.3	1478.6	1478.8	1479.1	1479.3
61.40	1479.5	1479.7	1479.9	1480.2	1480.4	1480.7	1480.9	1481.1	1481.4	1481.6
61.50	1481.8	1482.1	1482.3	1482.5	1482.7	1483.0	1483.2	1483.4	1483.7	1483.9
61.60	1484.1	1484.3	1484.6	1484.8	1485.0	1485.3	1485.5	1485.7	1486.0	1486.2
61.70	1486.4	1486.7	1486.9	1487.1	1487.3	1487.6	1487.8	1488.0	1488.3	1488.5
61.80	1488.7	1489.0	1489.2	1489.4	1489.6	1489.9	1490.1	1490.3	1490.6	1490.8
61.90	1491.0	1491.3	1491.5	1491.7	1491.9	1492.1	1492.4	1492.6	1492.8	1493.1

Temperature, °F

TABLE 4. CHROMEL-CONSTANTAN (Continued)

Millivolts	Reference Junction, °C									
	100	101	102	103	104	105	106	107	108	109
62.00	1493.3	1493.4	1493.5	1493.6	1493.7	1493.8	1493.9	1494.0	1494.1	1494.2
62.10	1495.6	1495.7	1495.8	1495.9	1496.0	1496.1	1496.2	1496.3	1496.4	1496.5
62.20	1497.9	1498.0	1498.1	1498.2	1498.3	1498.4	1498.5	1498.6	1498.7	1498.8
62.30	1500.2	1500.3	1500.4	1500.5	1500.6	1500.7	1500.8	1500.9	1501.0	1501.1
62.40	1502.5	1502.6	1502.7	1502.8	1502.9	1503.0	1503.1	1503.2	1503.3	1503.4
62.50	1504.8	1504.9	1505.0	1505.1	1505.2	1505.3	1505.4	1505.5	1505.6	1505.7
62.60	1507.1	1507.2	1507.3	1507.4	1507.5	1507.6	1507.7	1507.8	1507.9	1508.0
62.70	1509.4	1509.5	1509.6	1509.7	1509.8	1509.9	1510.0	1510.1	1510.2	1510.3
62.80	1511.7	1511.8	1511.9	1512.0	1512.1	1512.2	1512.3	1512.4	1512.5	1512.6
62.90	1514.0	1514.1	1514.2	1514.3	1514.4	1514.5	1514.6	1514.7	1514.8	1514.9
63.00	1516.3	1516.4	1516.5	1516.6	1516.7	1516.8	1516.9	1517.0	1517.1	1517.2
63.10	1518.6	1518.7	1518.8	1518.9	1519.0	1519.1	1519.2	1519.3	1519.4	1519.5
63.20	1520.9	1521.0	1521.1	1521.2	1521.3	1521.4	1521.5	1521.6	1521.7	1521.8
63.30	1523.2	1523.3	1523.4	1523.5	1523.6	1523.7	1523.8	1523.9	1524.0	1524.1
63.40	1525.5	1525.6	1525.7	1525.8	1525.9	1526.0	1526.1	1526.2	1526.3	1526.4
63.50	1527.8	1527.9	1528.0	1528.1	1528.2	1528.3	1528.4	1528.5	1528.6	1528.7
63.60	1530.1	1530.2	1530.3	1530.4	1530.5	1530.6	1530.7	1530.8	1530.9	1531.0
63.70	1532.4	1532.5	1532.6	1532.7	1532.8	1532.9	1533.0	1533.1	1533.2	1533.3
63.80	1534.7	1534.8	1534.9	1535.0	1535.1	1535.2	1535.3	1535.4	1535.5	1535.6
63.90	1537.0	1537.1	1537.2	1537.3	1537.4	1537.5	1537.6	1537.7	1537.8	1537.9
64.00	1539.3	1539.4	1539.5	1539.6	1539.7	1539.8	1539.9	1540.0	1540.1	1540.2
64.10	1541.6	1541.7	1541.8	1541.9	1542.0	1542.1	1542.2	1542.3	1542.4	1542.5
64.20	1543.9	1544.0	1544.1	1544.2	1544.3	1544.4	1544.5	1544.6	1544.7	1544.8
64.30	1546.2	1546.3	1546.4	1546.5	1546.6	1546.7	1546.8	1546.9	1547.0	1547.1
64.40	1548.5	1548.6	1548.7	1548.8	1548.9	1549.0	1549.1	1549.2	1549.3	1549.4
64.50	1550.8	1550.9	1551.0	1551.1	1551.2	1551.3	1551.4	1551.5	1551.6	1551.7
64.60	1553.1	1553.2	1553.3	1553.4	1553.5	1553.6	1553.7	1553.8	1553.9	1554.0
64.70	1555.4	1555.5	1555.6	1555.7	1555.8	1555.9	1556.0	1556.1	1556.2	1556.3
64.80	1557.7	1557.8	1557.9	1558.0	1558.1	1558.2	1558.3	1558.4	1558.5	1558.6
64.90	1560.0	1560.1	1560.2	1560.3	1560.4	1560.5	1560.6	1560.7	1560.8	1560.9
65.00	1562.3	1562.4	1562.5	1562.6	1562.7	1562.8	1562.9	1563.0	1563.1	1563.2
65.10	1564.6	1564.7	1564.8	1564.9	1565.0	1565.1	1565.2	1565.3	1565.4	1565.5
65.20	1566.9	1567.0	1567.1	1567.2	1567.3	1567.4	1567.5	1567.6	1567.7	1567.8
65.30	1569.2	1569.3	1569.4	1569.5	1569.6	1569.7	1569.8	1569.9	1570.0	1570.1
65.40	1571.5	1571.6	1571.7	1571.8	1571.9	1572.0	1572.1	1572.2	1572.3	1572.4
65.50	1573.8	1573.9	1574.0	1574.1	1574.2	1574.3	1574.4	1574.5	1574.6	1574.7
65.60	1576.1	1576.2	1576.3	1576.4	1576.5	1576.6	1576.7	1576.8	1576.9	1577.0
65.70	1578.4	1578.5	1578.6	1578.7	1578.8	1578.9	1579.0	1579.1	1579.2	1579.3
65.80	1580.7	1580.8	1580.9	1581.0	1581.1	1581.2	1581.3	1581.4	1581.5	1581.6
65.90	1583.0	1583.1	1583.2	1583.3	1583.4	1583.5	1583.6	1583.7	1583.8	1583.9
66.00	1585.3	1585.4	1585.5	1585.6	1585.7	1585.8	1585.9	1586.0	1586.1	1586.2
66.10	1587.6	1587.7	1587.8	1587.9	1588.0	1588.1	1588.2	1588.3	1588.4	1588.5
66.20	1589.9	1590.0	1590.1	1590.2	1590.3	1590.4	1590.5	1590.6	1590.7	1590.8
66.30	1592.2	1592.3	1592.4	1592.5	1592.6	1592.7	1592.8	1592.9	1593.0	1593.1
66.40	1594.5	1594.6	1594.7	1594.8	1594.9	1595.0	1595.1	1595.2	1595.3	1595.4
66.50	1596.8	1596.9	1597.0	1597.1	1597.2	1597.3	1597.4	1597.5	1597.6	1597.7
66.60	1599.1	1599.2	1599.3	1599.4	1599.5	1599.6	1599.7	1599.8	1599.9	1600.0
66.70	1601.4	1601.5	1601.6	1601.7	1601.8	1601.9	1602.0	1602.1	1602.2	1602.3
66.80	1603.7	1603.8	1603.9	1604.0	1604.1	1604.2	1604.3	1604.4	1604.5	1604.6
66.90	1606.0	1606.1	1606.2	1606.3	1606.4	1606.5	1606.6	1606.7	1606.8	1606.9

Temp. constant = 1

TABLE 4 CHROMEL-CONSTANTAN (Continued)

Millivolt <sup>a</sup>	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
67.00	1608.3	1609.0	1609.3	1609.5	1609.7	1610.0	1610.2	1610.4	1610.7	1610.9
67.10	1611.1	1611.4	1611.5	1611.8	1612.1	1612.3	1612.5	1612.8	1613.0	1613.2
67.20	1613.5	1613.7	1613.9	1614.2	1614.4	1614.6	1614.9	1615.1	1615.3	1615.6
67.30	1615.8	1616.0	1616.3	1616.5	1616.7	1617.0	1617.2	1617.4	1617.7	1617.9
67.40	1618.1	1618.3	1618.6	1618.8	1619.0	1619.3	1619.5	1619.7	1620.0	1620.2
67.50	1620.4	1620.7	1620.9	1621.1	1621.4	1621.6	1621.8	1622.1	1622.3	1622.5
67.60	1622.8	1623.0	1623.2	1623.5	1623.7	1623.9	1624.2	1624.4	1624.6	1624.9
67.70	1625.1	1625.3	1625.6	1625.8	1626.0	1626.3	1626.5	1626.7	1627.0	1627.2
67.80	1627.4	1627.7	1627.9	1628.1	1628.4	1628.6	1628.8	1629.1	1629.3	1629.5
67.90	1629.8	1630.0	1630.2	1630.5	1630.7	1630.9	1631.2	1631.4	1631.6	1631.9
68.00	1632.1	1632.3	1632.6	1632.8	1633.0	1633.3	1633.5	1633.7	1634.0	1634.2
68.10	1634.4	1634.7	1634.9	1635.1	1635.4	1635.6	1635.8	1636.1	1636.3	1636.5
68.20	1636.3	1637.0	1637.2	1637.5	1637.7	1637.9	1638.2	1638.4	1638.6	1638.9
68.30	1639.1	1639.3	1639.6	1639.8	1640.0	1640.3	1640.5	1640.7	1641.0	1641.2
68.40	1641.4	1641.7	1641.9	1642.1	1642.4	1642.6	1642.8	1643.1	1643.3	1643.5
68.50	1643.8	1644.0	1644.2	1644.5	1644.7	1644.9	1645.2	1645.4	1645.6	1645.9
68.60	1646.1	1646.3	1646.6	1646.8	1647.0	1647.3	1647.5	1647.7	1648.0	1648.2
68.70	1648.5	1648.7	1648.9	1649.2	1649.4	1649.6	1649.9	1650.1	1650.3	1650.6
68.80	1650.8	1651.0	1651.3	1651.5	1651.7	1652.0	1652.2	1652.4	1652.7	1652.9
68.90	1653.1	1653.4	1653.6	1653.8	1654.1	1654.3	1654.5	1654.8	1655.0	1655.2
69.00	1655.5	1655.7	1655.9	1656.2	1656.4	1656.6	1656.9	1657.1	1657.3	1657.6
69.10	1657.8	1658.0	1658.3	1658.5	1658.7	1659.0	1659.2	1659.4	1659.7	1659.9
69.20	1660.1	1660.4	1660.6	1660.9	1661.1	1661.3	1661.6	1661.8	1662.0	1662.3
69.30	1662.5	1662.7	1663.0	1663.2	1663.4	1663.7	1663.9	1664.1	1664.4	1664.6
69.40	1664.8	1665.1	1665.3	1665.5	1665.8	1666.0	1666.2	1666.5	1666.7	1666.9
69.50	1667.2	1667.4	1667.6	1667.9	1668.1	1668.3	1668.6	1668.8	1669.1	1669.3
69.60	1669.5	1669.8	1670.0	1670.2	1670.5	1670.7	1670.9	1671.2	1671.4	1671.6
69.70	1671.9	1672.1	1672.3	1672.6	1672.8	1673.0	1673.3	1673.5	1673.7	1674.0
69.80	1674.2	1674.4	1674.7	1674.9	1675.2	1675.4	1675.6	1675.9	1676.1	1676.3
69.90	1676.6	1676.8	1677.0	1677.3	1677.5	1677.7	1678.0	1678.2	1678.4	1678.7
70.00	1678.9	1679.1	1679.4	1679.6	1679.8	1680.1	1680.3	1680.5	1680.8	1681.0
70.10	1681.3	1681.5	1681.7	1682.0	1682.2	1682.4	1682.7	1682.9	1683.1	1683.4
70.20	1683.6	1683.8	1684.1	1684.3	1684.5	1684.8	1685.0	1685.2	1685.5	1685.7
70.30	1686.0	1686.2	1686.4	1686.7	1686.9	1687.1	1687.4	1687.6	1687.8	1688.1
70.40	1688.3	1688.5	1688.8	1689.0	1689.2	1689.5	1689.7	1689.9	1690.2	1690.4
70.50	1690.7	1690.9	1691.1	1691.4	1691.6	1691.8	1692.1	1692.3	1692.5	1692.8
70.60	1693.0	1693.2	1693.5	1693.7	1693.9	1694.2	1694.4	1694.6	1694.9	1695.1
70.70	1695.4	1695.6	1695.8	1696.1	1696.3	1696.5	1696.8	1697.0	1697.2	1697.5
70.80	1697.7	1697.9	1698.2	1698.4	1698.7	1698.9	1699.1	1699.4	1699.6	1699.8
70.90	1700.1	1700.3	1700.5	1700.8	1701.0	1701.2	1701.5	1701.7	1701.9	1702.2
71.00	1702.4	1702.7	1702.9	1703.1	1703.4	1703.6	1703.8	1704.1	1704.3	1704.5
71.10	1704.8	1705.0	1705.2	1705.5	1705.7	1705.9	1706.2	1706.4	1706.7	1706.9
71.20	1707.1	1707.4	1707.6	1707.8	1708.1	1708.3	1708.5	1708.8	1709.0	1709.2
71.30	1709.5	1709.7	1710.0	1710.2	1710.4	1710.7	1710.9	1711.1	1711.4	1711.6
71.40	1711.8	1712.1	1712.3	1712.6	1712.8	1713.0	1713.3	1713.5	1713.7	1714.0
71.50	1714.2	1714.4	1714.7	1714.9	1715.1	1715.4	1715.6	1715.9	1716.1	1716.3
71.60	1716.6	1716.8	1717.0	1717.3	1717.5	1717.7	1718.0	1718.2	1718.5	1718.7
71.70	1719.0	1719.2	1719.5	1719.7	1719.9	1720.2	1720.4	1720.7	1720.9	1721.2
71.80	1721.3	1721.5	1721.8	1722.0	1722.3	1722.5	1722.8	1723.0	1723.3	1723.5
71.90	1723.6	1723.9	1724.1	1724.4	1724.6	1724.9	1725.1	1725.4	1725.6	1725.8

Temperature, °F

TABLE 4 CHROMEL-CONSTANTAN (Concluded)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
72.00	1726.0	1726.2	1726.5	1726.7	1726.9	1727.2	1727.4	1727.7	1727.9	1728.1
72.10	1728.4	1728.6	1728.8	1729.1	1729.3	1729.6	1729.8	1730.0	1730.3	1730.5
72.20	1730.7	1731.0	1731.2	1731.4	1731.7	1731.9	1732.2	1732.4	1732.6	1732.9
72.30	1733.1	1733.3	1733.6	1733.8	1734.0	1734.3	1734.5	1734.8	1735.0	1735.2
72.40	1735.5	1735.7	1735.9	1736.2	1736.4	1736.6	1736.9	1737.1	1737.4	1737.6
72.50	1737.8	1738.1	1738.3	1738.5	1738.8	1739.0	1739.2	1739.5	1739.7	1740.0
72.60	1740.2	1740.4	1740.7	1740.9	1741.1	1741.4	1741.6	1741.9	1742.1	1742.3
72.70	1742.6	1742.8	1743.0	1743.3	1743.5	1743.7	1744.0	1744.2	1744.5	1744.7
72.80	1744.9	1745.2	1745.4	1745.6	1745.9	1746.1	1746.4	1746.6	1746.8	1747.1
72.90	1747.3	1747.5	1747.8	1748.0	1748.2	1748.5	1748.7	1749.0	1749.2	1749.4
73.00	1749.7	1749.9	1750.1	1750.4	1750.6	1750.9	1751.1	1751.3	1751.6	1751.8
73.10	1752.0	1752.3	1752.5	1752.8	1753.0	1753.2	1753.5	1753.7	1753.9	1754.2
73.20	1754.4	1754.7	1754.9	1755.1	1755.4	1755.6	1755.8	1756.1	1756.3	1756.5
73.30	1756.8	1757.0	1757.3	1757.5	1757.7	1758.0	1758.2	1758.4	1758.7	1758.9
73.40	1759.2	1759.4	1759.6	1759.9	1760.1	1760.3	1760.6	1760.8	1761.1	1761.3
73.50	1761.5	1761.8	1762.0	1762.2	1762.5	1762.7	1763.0	1763.2	1763.4	1763.7
73.60	1763.9	1764.1	1764.4	1764.6	1764.9	1765.1	1765.3	1765.6	1765.8	1766.0
73.70	1766.3	1766.5	1766.8	1767.0	1767.2	1767.5	1767.7	1768.0	1768.2	1768.4
73.80	1768.7	1768.9	1769.1	1769.4	1769.6	1769.9	1770.1	1770.3	1770.6	1770.8
73.90	1771.0	1771.3	1771.5	1771.8	1772.0	1772.2	1772.5	1772.7	1772.9	1773.2
74.00	1773.4	1773.7	1773.9	1774.1	1774.4	1774.6	1774.8	1775.1	1775.3	1775.6
74.10	1775.8	1776.0	1776.3	1776.5	1776.7	1777.0	1777.2	1777.5	1777.7	1777.9
74.20	1778.2	1778.4	1778.7	1778.9	1779.1	1779.4	1779.6	1779.8	1780.1	1780.3
74.30	1780.6	1780.8	1781.0	1781.3	1781.5	1781.7	1782.0	1782.2	1782.5	1782.7
74.40	1782.9	1783.2	1783.4	1783.7	1783.9	1784.1	1784.4	1784.6	1784.8	1785.1
74.50	1785.3	1785.6	1785.8	1786.0	1786.3	1786.5	1786.8	1787.0	1787.2	1787.5
74.60	1787.7	1787.9	1788.2	1788.4	1788.7	1788.9	1789.1	1789.4	1789.6	1789.9
74.70	1790.1	1790.3	1790.6	1790.8	1791.0	1791.3	1791.5	1791.8	1792.0	1792.2
74.80	1792.5	1792.7	1793.0	1793.2	1793.4	1793.7	1793.9	1794.1	1794.4	1794.6
74.90	1794.9	1795.1	1795.3	1795.6	1795.8	1796.1	1796.3	1796.5	1796.8	1797.0

Temperature, °F



Table 5  
Plat.-Plat.  
+ 10% Rhodium

TABLE 5  
TEMPERATURE VS MILLIVOLTS FOR  
PLATINUM-PLATINUM + 10% RHODIUM THERMOCOUPLES

Millivolts	Reference Junction, 32 °F										
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10
00.00	0032.0	0032.4	0032.8	0033.2	0033.6	0034.0	0034.4	0034.8	0035.2	0035.6	0036.0
00.10	0036.4	0036.8	0037.2	0037.6	0038.0	0038.4	0038.8	0039.2	0039.6	0040.0	0040.4
00.20	0040.8	0041.2	0041.6	0042.0	0042.4	0042.8	0043.2	0043.6	0044.0	0044.4	0044.8
00.30	0045.2	0045.6	0046.0	0046.4	0046.8	0047.2	0047.6	0048.0	0048.4	0048.8	0049.2
00.40	0053.6	0054.0	0054.4	0054.8	0055.2	0055.6	0056.0	0056.4	0056.8	0057.2	0057.6
00.50	0060.0	0060.4	0060.8	0061.2	0061.6	0062.0	0062.4	0062.8	0063.2	0063.6	0064.0
00.60	0068.4	0068.8	0069.2	0069.6	0070.0	0070.4	0070.8	0071.2	0071.6	0072.0	0072.4
00.70	0076.8	0077.2	0077.6	0078.0	0078.4	0078.8	0079.2	0079.6	0080.0	0080.4	0080.8
00.80	0087.2	0087.6	0088.0	0088.4	0088.8	0089.2	0089.6	0090.0	0090.4	0090.8	0091.2
00.90	0097.6	0098.0	0098.4	0098.8	0099.2	0099.6	0100.0	0100.4	0100.8	0101.2	0101.6
01.00	0108.0	0108.4	0108.8	0109.2	0109.6	0110.0	0110.4	0110.8	0111.2	0111.6	0112.0
01.10	0118.4	0118.8	0119.2	0119.6	0120.0	0120.4	0120.8	0121.2	0121.6	0122.0	0122.4
01.20	0128.8	0129.2	0129.6	0130.0	0130.4	0130.8	0131.2	0131.6	0132.0	0132.4	0132.8
01.30	0139.2	0139.6	0140.0	0140.4	0140.8	0141.2	0141.6	0142.0	0142.4	0142.8	0143.2
01.40	0149.6	0150.0	0150.4	0150.8	0151.2	0151.6	0152.0	0152.4	0152.8	0153.2	0153.6
01.50	0160.0	0160.4	0160.8	0161.2	0161.6	0162.0	0162.4	0162.8	0163.2	0163.6	0164.0
01.60	0170.4	0170.8	0171.2	0171.6	0172.0	0172.4	0172.8	0173.2	0173.6	0174.0	0174.4
01.70	0180.8	0181.2	0181.6	0182.0	0182.4	0182.8	0183.2	0183.6	0184.0	0184.4	0184.8
01.80	0191.2	0191.6	0192.0	0192.4	0192.8	0193.2	0193.6	0194.0	0194.4	0194.8	0195.2
01.90	0201.6	0202.0	0202.4	0202.8	0203.2	0203.6	0204.0	0204.4	0204.8	0205.2	0205.6
02.00	0212.0	0212.4	0212.8	0213.2	0213.6	0214.0	0214.4	0214.8	0215.2	0215.6	0216.0
02.10	0222.4	0222.8	0223.2	0223.6	0224.0	0224.4	0224.8	0225.2	0225.6	0226.0	0226.4
02.20	0232.8	0233.2	0233.6	0234.0	0234.4	0234.8	0235.2	0235.6	0236.0	0236.4	0236.8
02.30	0243.2	0243.6	0244.0	0244.4	0244.8	0245.2	0245.6	0246.0	0246.4	0246.8	0247.2
02.40	0253.6	0254.0	0254.4	0254.8	0255.2	0255.6	0256.0	0256.4	0256.8	0257.2	0257.6
02.50	0264.0	0264.4	0264.8	0265.2	0265.6	0266.0	0266.4	0266.8	0267.2	0267.6	0268.0
02.60	0274.4	0274.8	0275.2	0275.6	0276.0	0276.4	0276.8	0277.2	0277.6	0278.0	0278.4
02.70	0284.8	0285.2	0285.6	0286.0	0286.4	0286.8	0287.2	0287.6	0288.0	0288.4	0288.8
02.80	0295.2	0295.6	0296.0	0296.4	0296.8	0297.2	0297.6	0298.0	0298.4	0298.8	0299.2
02.90	0305.6	0306.0	0306.4	0306.8	0307.2	0307.6	0308.0	0308.4	0308.8	0309.2	0309.6
03.00	0316.0	0316.4	0316.8	0317.2	0317.6	0318.0	0318.4	0318.8	0319.2	0319.6	0320.0
03.10	0326.4	0326.8	0327.2	0327.6	0328.0	0328.4	0328.8	0329.2	0329.6	0330.0	0330.4
03.20	0336.8	0337.2	0337.6	0338.0	0338.4	0338.8	0339.2	0339.6	0340.0	0340.4	0340.8
03.30	0347.2	0347.6	0348.0	0348.4	0348.8	0349.2	0349.6	0350.0	0350.4	0350.8	0351.2
03.40	0357.6	0358.0	0358.4	0358.8	0359.2	0359.6	0360.0	0360.4	0360.8	0361.2	0361.6
03.50	0368.0	0368.4	0368.8	0369.2	0369.6	0370.0	0370.4	0370.8	0371.2	0371.6	0372.0
03.60	0378.4	0378.8	0379.2	0379.6	0380.0	0380.4	0380.8	0381.2	0381.6	0382.0	0382.4
03.70	0388.8	0389.2	0389.6	0390.0	0390.4	0390.8	0391.2	0391.6	0392.0	0392.4	0392.8
03.80	0399.2	0399.6	0399.9	0400.3	0400.7	0401.1	0401.5	0401.9	0402.3	0402.7	0403.1
03.90	0409.6	0410.0	0410.4	0410.8	0411.2	0411.6	0412.0	0412.4	0412.8	0413.2	0413.6
04.00	0420.0	0420.4	0420.8	0421.2	0421.6	0422.0	0422.4	0422.8	0423.2	0423.6	0424.0
04.10	0430.4	0430.8	0431.2	0431.6	0432.0	0432.4	0432.8	0433.2	0433.6	0434.0	0434.4
04.20	0440.8	0441.2	0441.6	0442.0	0442.4	0442.8	0443.2	0443.6	0444.0	0444.4	0444.8
04.30	0451.2	0451.6	0452.0	0452.4	0452.8	0453.2	0453.6	0454.0	0454.4	0454.8	0455.2
04.40	0461.6	0462.0	0462.4	0462.8	0463.2	0463.6	0464.0	0464.4	0464.8	0465.2	0465.6
04.50	0472.0	0472.4	0472.8	0473.2	0473.6	0474.0	0474.4	0474.8	0475.2	0475.6	0476.0
04.60	0482.4	0482.8	0483.2	0483.6	0484.0	0484.4	0484.8	0485.2	0485.6	0486.0	0486.4
04.70	0492.8	0493.2	0493.6	0494.0	0494.4	0494.8	0495.2	0495.6	0496.0	0496.4	0496.8
04.80	0503.2	0503.6	0504.0	0504.4	0504.8	0505.2	0505.6	0506.0	0506.4	0506.8	0507.2
04.90	0513.6	0514.0	0514.4	0514.8	0515.2	0515.6	0516.0	0516.4	0516.8	0517.2	0517.6

Temperature, °F

TABLE 5 PLATINUM-PLATINUM + 10% RHODIUM (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
05.00	1072.4	1074.2	1075.9	1077.7	1079.5	1081.3	1083.0	1084.8	1086.6	1088.4
05.10	1090.1	1091.9	1093.7	1095.5	1097.2	1099.0	1100.8	1102.5	1104.3	1106.1
05.20	1107.8	1109.6	1111.4	1113.1	1114.9	1116.7	1118.4	1120.2	1122.0	1123.7
05.30	1125.5	1127.3	1129.0	1130.8	1132.5	1134.3	1136.1	1137.8	1139.6	1141.3
05.40	1143.1	1144.8	1146.6	1148.3	1150.1	1151.9	1153.6	1155.4	1157.1	1158.9
05.50	1160.6	1162.4	1164.1	1165.9	1167.6	1169.4	1171.1	1172.9	1174.6	1176.4
05.60	1178.1	1179.8	1181.6	1183.3	1185.1	1186.8	1188.6	1190.3	1192.0	1193.8
05.70	1195.5	1197.3	1199.0	1200.7	1202.5	1204.2	1206.0	1207.7	1209.4	1211.2
05.80	1212.9	1214.6	1216.4	1218.1	1219.8	1221.6	1223.3	1225.0	1226.7	1228.5
05.90	1230.2	1231.9	1233.7	1235.4	1237.1	1238.8	1240.6	1242.3	1244.0	1245.7
06.00	1247.5	1249.2	1250.9	1252.6	1254.4	1256.1	1257.8	1259.5	1261.2	1263.0
06.10	1264.7	1266.4	1268.1	1269.8	1271.6	1273.3	1275.0	1276.7	1278.4	1280.1
06.20	1281.8	1283.6	1285.3	1287.0	1288.7	1290.4	1292.1	1293.8	1295.5	1297.2
06.30	1298.9	1300.7	1302.4	1304.1	1305.8	1307.5	1309.2	1310.9	1312.6	1314.3
06.40	1316.0	1317.7	1319.4	1321.1	1322.8	1324.5	1326.2	1327.9	1329.6	1331.3
06.50	1333.0	1334.7	1336.4	1338.1	1339.8	1341.5	1343.2	1344.9	1346.6	1348.3
06.60	1349.9	1351.6	1353.3	1355.0	1356.7	1358.4	1360.1	1361.8	1363.5	1365.2
06.70	1366.8	1368.5	1370.2	1371.9	1373.6	1375.3	1377.0	1378.6	1380.3	1382.0
06.80	1383.7	1385.4	1387.1	1388.7	1390.4	1392.1	1393.8	1395.5	1397.1	1398.8
06.90	1400.5	1402.2	1403.8	1405.5	1407.2	1408.9	1410.5	1412.2	1413.9	1415.6
07.00	1417.2	1418.9	1420.6	1422.3	1423.9	1425.6	1427.3	1428.9	1430.6	1432.3
07.10	1433.9	1435.6	1437.3	1438.9	1440.6	1442.3	1443.9	1445.6	1447.3	1448.9
07.20	1450.6	1452.3	1453.9	1455.6	1457.2	1458.9	1460.6	1462.2	1463.9	1465.5
07.30	1467.2	1468.8	1470.5	1472.2	1473.8	1475.5	1477.1	1478.8	1480.4	1482.1
07.40	1483.7	1485.4	1487.0	1488.7	1490.4	1492.0	1493.7	1495.3	1497.0	1498.6
07.50	1500.3	1501.9	1503.5	1505.2	1506.8	1508.5	1510.1	1511.8	1513.4	1515.1
07.60	1516.7	1518.4	1520.0	1521.6	1523.3	1524.9	1526.6	1528.2	1529.8	1531.5
07.70	1533.1	1534.8	1536.4	1538.0	1539.7	1541.3	1543.0	1544.6	1546.2	1547.9
07.80	1549.5	1551.1	1552.8	1554.4	1556.0	1557.7	1559.3	1560.9	1562.6	1564.2
07.90	1565.8	1567.4	1569.1	1570.7	1572.3	1574.0	1575.6	1577.2	1578.8	1580.5
08.00	1582.1	1583.7	1585.3	1587.0	1588.6	1590.2	1591.8	1593.5	1595.1	1596.7
08.10	1598.3	1599.9	1601.6	1603.2	1604.8	1606.4	1608.0	1609.7	1611.3	1612.9
08.20	1614.5	1616.1	1617.7	1619.4	1621.0	1622.6	1624.2	1625.8	1627.4	1629.0
08.30	1630.7	1632.3	1633.9	1635.5	1637.1	1638.7	1640.3	1641.9	1643.5	1645.2
08.40	1646.8	1648.4	1650.0	1651.6	1653.2	1654.8	1656.4	1658.0	1659.6	1661.2
08.50	1662.8	1664.4	1666.0	1667.6	1669.2	1670.8	1672.4	1674.0	1675.6	1677.2
08.60	1678.3	1680.4	1682.0	1683.6	1685.2	1686.8	1688.4	1690.0	1691.6	1693.2
08.70	1694.8	1696.4	1698.0	1699.6	1701.2	1702.8	1704.4	1706.0	1707.6	1709.1
08.80	1710.7	1712.3	1713.9	1715.5	1717.1	1718.7	1720.3	1721.9	1723.4	1725.0
08.90	1726.6	1728.2	1729.8	1731.4	1733.0	1734.6	1736.1	1737.7	1739.3	1740.9
09.00	1742.5	1744.1	1745.6	1747.2	1748.8	1750.4	1752.0	1753.5	1755.1	1756.7
09.10	1758.3	1759.9	1761.4	1763.0	1764.6	1766.2	1767.7	1769.3	1770.9	1772.5
09.20	1774.0	1775.6	1777.2	1778.8	1780.3	1781.9	1783.5	1785.1	1786.6	1788.2
09.30	1793.6	1795.1	1796.7	1798.3	1799.8	1801.4	1803.0	1804.6	1806.1	1807.7
09.40	1805.5	1807.1	1808.7	1810.3	1811.8	1813.4	1814.9	1816.5	1818.0	1819.6
09.50	1821.1	1822.7	1824.3	1825.8	1827.4	1828.9	1830.5	1832.0	1833.6	1835.2
09.60	1836.7	1838.3	1839.8	1841.4	1842.9	1844.5	1846.0	1847.6	1849.1	1850.7
09.70	1852.2	1853.8	1855.3	1856.9	1858.4	1860.0	1861.5	1863.1	1864.6	1866.2
09.80	1867.7	1869.3	1870.8	1872.4	1873.9	1875.4	1877.0	1878.5	1880.1	1881.6
09.90	1883.2	1884.7	1886.3	1887.8	1889.3	1890.9	1892.4	1894.0	1895.5	1897.1

Temperature, °F

TABLE 5 PLATINUM-PLATINUM + 10% RHODIUM (Continued)

Millivolts	Reference Junction, 32 °P									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
10.00	1971.0	1980.1	1991.7	1993.0	1998.7	1999.3	1997.0	1999.4	1998.9	1992.4
10.10	1974.0	1983.5	1997.1	1997.6	1999.1	1994.7	1995.1	1995.7	1996.3	1997.8
10.20	1977.3	1980.0	1985.8	1983.9	1989.9	1987.0	1988.3	1990.1	1991.6	1993.1
10.30	1981.7	1981.8	1987.7	1989.3	1990.8	1987.3	1988.9	1995.4	1995.9	1995.4
10.40	1989.0	1981.9	1983.0	1988.0	1986.1	1987.0	1989.1	1970.7	1972.2	1973.7
10.50	1975.3	1970.3	1975.3	1973.5	1981.4	1982.9	1984.4	1985.9	1987.4	1989.0
10.60	1990.5	1992.0	1993.9	1995.1	1998.6	1998.1	1999.6	2001.2	2002.7	2004.2
10.70	2005.7	2007.2	2008.8	2010.3	2011.8	2013.3	2014.8	2016.4	2017.9	2019.4
10.80	2020.9	2022.4	2024.0	2025.5	2027.0	2028.5	2030.0	2031.5	2033.1	2034.6
10.90	2036.1	2037.6	2039.1	2040.6	2042.2	2043.7	2045.2	2046.7	2048.2	2049.7
11.00	2051.3	2052.8	2054.3	2055.8	2057.3	2058.8	2060.3	2061.8	2063.4	2064.9
11.10	2066.4	2067.9	2069.4	2070.9	2072.4	2073.9	2075.5	2077.0	2078.5	2080.0
11.20	2081.5	2083.0	2084.5	2086.0	2087.5	2089.1	2090.6	2092.1	2093.6	2095.1
11.30	2096.6	2098.1	2099.6	2101.1	2102.6	2104.1	2105.6	2107.2	2108.7	2110.2
11.40	2111.7	2113.2	2114.7	2116.2	2117.7	2119.2	2120.7	2122.2	2123.7	2125.2
11.50	2126.7	2128.2	2129.8	2131.3	2132.8	2134.3	2135.8	2137.3	2138.8	2140.3
11.60	2141.8	2143.3	2144.8	2146.3	2147.8	2149.3	2150.8	2152.3	2153.8	2155.3
11.70	2156.3	2157.8	2159.3	2161.3	2162.8	2164.3	2165.8	2167.3	2168.8	2170.3
11.80	2171.8	2173.4	2174.6	2176.4	2177.9	2179.4	2180.9	2182.4	2183.9	2185.4
11.90	2186.9	2188.4	2189.9	2191.4	2192.9	2194.4	2195.9	2197.4	2198.9	2200.4
12.00	2201.9	2203.4	2204.9	2206.4	2207.9	2209.4	2210.9	2212.3	2213.8	2215.3
12.10	2216.8	2218.3	2219.8	2221.3	2222.8	2224.3	2225.8	2227.3	2228.8	2230.3
12.20	2231.8	2233.3	2234.8	2236.3	2237.8	2239.3	2240.8	2242.3	2243.8	2245.3
12.30	2246.8	2248.3	2249.8	2251.3	2252.8	2254.3	2255.8	2257.3	2258.8	2260.3
12.40	2261.6	2263.3	2264.8	2266.3	2267.8	2269.2	2270.7	2272.2	2273.7	2275.2
12.50	2275.7	2277.2	2278.7	2281.2	2282.7	2284.2	2285.7	2287.2	2288.7	2290.2
12.60	2291.7	2293.2	2294.7	2296.2	2297.7	2299.2	2300.7	2302.2	2303.7	2305.1
12.70	2306.6	2308.1	2309.6	2311.1	2312.6	2314.1	2315.6	2317.1	2318.6	2320.1
12.80	2321.6	2323.1	2324.6	2326.1	2327.6	2329.1	2330.6	2332.1	2333.6	2335.1
12.90	2336.6	2338.0	2339.5	2341.0	2342.5	2344.0	2345.5	2347.0	2348.5	2350.0
13.00	2351.5	2353.0	2354.5	2356.0	2357.5	2359.0	2360.5	2362.0	2363.5	2365.0
13.10	2366.5	2368.0	2369.5	2370.9	2372.4	2373.9	2375.4	2376.9	2378.4	2379.9
13.20	2381.4	2382.9	2384.4	2385.9	2387.4	2388.9	2390.4	2391.9	2393.4	2394.9
13.30	2396.4	2397.9	2399.4	2400.9	2402.4	2403.9	2405.4	2406.9	2408.3	2409.8
13.40	2411.3	2412.8	2414.3	2415.8	2417.3	2418.8	2420.3	2421.8	2423.3	2424.8
13.50	2426.3	2427.8	2429.3	2430.8	2432.3	2433.8	2435.3	2436.8	2438.3	2439.8
13.60	2441.3	2442.8	2444.3	2445.8	2447.3	2448.8	2450.3	2451.8	2453.3	2454.8
13.70	2456.3	2457.8	2459.3	2460.8	2462.3	2463.8	2465.3	2466.8	2468.3	2469.8
13.80	2471.3	2472.8	2474.3	2475.8	2477.3	2478.8	2480.3	2481.8	2483.3	2484.8
13.90	2486.3	2487.8	2489.3	2490.8	2492.3	2493.8	2495.3	2496.8	2498.3	2499.8
14.00	2501.3	2502.8	2504.3	2505.8	2507.3	2508.8	2510.3	2511.8	2513.3	2514.8
14.10	2516.3	2517.8	2519.3	2520.8	2522.3	2523.8	2525.4	2526.9	2528.4	2529.9
14.20	2531.4	2532.9	2534.4	2535.9	2537.4	2538.9	2540.4	2541.9	2543.4	2544.9
14.30	2546.4	2547.9	2549.4	2551.0	2552.5	2554.0	2555.5	2557.0	2558.5	2560.0
14.40	2561.5	2563.0	2564.5	2566.0	2567.5	2569.0	2570.5	2572.1	2573.6	2575.1
14.50	2576.6	2578.1	2579.6	2581.1	2582.6	2584.1	2585.7	2587.2	2588.7	2590.2
14.60	2591.7	2593.2	2594.7	2596.2	2597.7	2599.2	2600.7	2602.2	2603.7	2605.2
14.70	2606.7	2608.2	2609.7	2611.2	2612.7	2614.2	2615.7	2617.2	2618.7	2620.2
14.80	2621.6	2623.1	2624.6	2626.1	2627.6	2629.1	2630.6	2632.1	2633.6	2635.1
14.90	2636.7	2638.2	2639.7	2641.2	2642.7	2644.2	2645.7	2647.2	2648.7	2650.2

Temperature, °F

TABLE 5 PLATINUM-PLATINUM + 10% RHODIUM (Concluded)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
15.00	2651.9	2653.4	2654.9	2656.4	2657.9	2659.4	2660.9	2662.5	2664.0	2665.5
15.10	2667.0	2668.5	2670.0	2671.5	2673.0	2674.6	2676.1	2677.6	2679.1	2680.6
15.20	2682.1	2683.6	2685.1	2686.7	2688.2	2689.7	2691.2	2692.7	2694.2	2695.7
15.30	2697.3	2698.8	2700.3	2701.8	2703.3	2704.8	2706.3	2707.8	2709.4	2710.9
15.40	2712.4	2713.9	2715.4	2716.9	2718.4	2719.9	2721.5	2723.0	2724.5	2726.0
15.50	2727.5	2729.0	2730.5	2732.1	2733.6	2735.1	2736.6	2738.1	2739.6	2741.1
15.60	2742.7	2744.2	2745.7	2747.2	2748.7	2750.2	2751.7	2753.2	2754.8	2756.3
15.70	2757.8	2759.3	2760.8	2762.3	2763.8	2765.4	2766.9	2768.4	2769.9	2771.4
15.80	2772.9	2774.5	2776.0	2777.5	2779.0	2780.5	2782.0	2783.5	2785.1	2786.6
15.90	2788.1	2789.6	2791.1	2792.6	2794.1	2795.7	2797.2	2798.7	2800.2	2801.7
16.00	2803.2	2804.8	2806.3	2807.8	2809.3	2810.8	2812.3	2813.9	2815.4	2816.9
16.10	2818.4	2819.9	2821.4	2823.0	2824.5	2826.0	2827.5	2829.0	2830.5	2832.1
16.20	2833.6	2835.1	2836.6	2838.1	2839.6	2841.2	2842.7	2844.2	2845.7	2847.2
16.30	2848.8	2850.3	2851.8	2853.3	2854.8	2856.3	2857.9	2859.4	2860.9	2862.4
16.40	2863.9	2865.5	2867.0	2868.5	2870.0	2871.5	2873.1	2874.6	2876.1	2877.6
16.50	2879.1	2880.7	2882.2	2883.7	2885.2	2886.7	2888.3	2889.8	2891.3	2892.8
16.60	2894.3	2895.9	2897.4	2898.9	2900.4	2901.9	2903.5	2905.0	2906.5	2908.0
16.70	2909.6	2911.1	2912.6	2914.1	2915.6	2917.2	2918.7	2920.2	2921.7	2923.3
16.80	2924.8	2926.3	2927.8	2929.4	2930.9	2932.4	2933.9	2935.5	2937.0	2938.5
16.90	2940.0	2941.5	2943.1	2944.6	2946.1	2947.6	2949.2	2950.7	2952.2	2953.7
17.00	2955.3	2956.8	2958.3	2959.9	2961.4	2962.9	2964.4	2966.0	2967.5	2969.0
17.10	2970.5	2972.1	2973.6	2975.1	2976.6	2978.2	2979.7	2981.2	2982.8	2984.3
17.20	2985.8	2987.3	2988.9	2990.4	2991.9	2993.5	2995.0	2996.5	2998.1	2999.6
17.30	3001.1	3002.6	3004.2	3005.7	3007.2	3008.8	3010.3	3011.8	3013.4	3014.9
17.40	3016.4	3017.9	3019.5	3021.0	3022.5	3024.1	3025.6	3027.1	3028.7	3030.2
17.50	3031.7	3033.3	3034.8	3036.3	3037.9	3039.4	3041.0	3042.5	3044.0	3045.6
17.60	3047.1	3048.6	3050.2	3051.7	3053.2	3054.8	3056.3	3057.8	3059.4	3060.9
17.70	3062.4	3064.0	3065.5	3067.1	3068.6	3070.1	3071.7	3073.2	3074.7	3076.3
17.80	3077.8	3079.4	3080.9	3082.4	3084.0	3085.5	3087.1	3088.6	3090.1	3091.7
17.90	3093.2	3094.8	3095.3	3097.8	3099.4	3100.9	3102.5	3104.0	3105.5	3107.1
18.00	3108.6	3110.2	3111.7	3113.3	3114.8	3116.3	3117.9	3119.4	3121.0	3122.5
18.10	3124.1	3125.6	3127.2	3128.7	3130.2	3131.8	3133.3	3134.9	3136.4	3138.0
18.20	3139.5	3141.1	3142.6	3144.2	3145.7	3147.3	3148.8	3150.4	3151.9	3153.5
18.30	3155.0	3156.6	3158.1	3159.6	3161.2	3162.7	3164.3	3165.8	3167.4	3168.9
18.40	3170.5	3172.0	3173.6	3175.2	3176.7	3178.3	3179.8	3181.4	3182.9	3184.5

Temperature, °F

Table 6  
Plat.-Plat.  
+ 13% Riodium

TABLE 6  
TEMPERATURE VS MILLIVOLTS FOR  
PLATINUM-PLATINUM + 13% RHODIUM THERMOCOUPLES

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
00.00	0051.1	0052.4	0053.6	0054.9	0056.1	0057.3	0058.5	0059.6	0060.8	0062.0
00.10	0057.0	0057.1	0058.2	0059.3	0060.3	0061.3	0062.3	0063.3	0064.3	0065.3
00.20	0062.1	0067.1	0103.1	0103.0	0103.0	0103.7	0111.6	0114.4	0117.2	0120.0
00.30	0102.1	0125.6	0123.4	0131.2	0133.9	0135.6	0139.3	0142.0	0144.7	0147.4
00.40	0150.1	0152.7	0155.4	0158.0	0160.6	0163.2	0165.8	0168.4	0171.0	0173.5
00.50	0176.1	0176.6	0181.2	0183.7	0186.2	0188.7	0191.2	0193.6	0196.1	0198.6
00.60	0201.0	0203.5	0205.9	0208.3	0210.7	0213.2	0215.6	0217.9	0220.3	0222.7
00.70	0225.1	0227.4	0229.8	0232.1	0234.5	0236.8	0239.1	0241.5	0243.8	0246.1
00.80	0248.4	0250.7	0253.0	0255.3	0257.6	0259.8	0262.1	0264.4	0266.6	0268.9
00.90	0271.2	0273.4	0275.7	0277.9	0280.1	0282.4	0284.6	0286.8	0289.1	0291.3
01.00	0293.5	0295.7	0297.8	0300.0	0302.2	0304.4	0306.6	0308.7	0310.9	0313.1
01.10	0315.2	0317.4	0319.6	0321.7	0323.9	0326.0	0328.2	0330.3	0332.4	0334.6
01.20	0336.7	0338.8	0340.9	0343.1	0345.2	0347.3	0349.4	0351.5	0353.6	0355.7
01.30	0357.8	0359.9	0362.0	0364.1	0366.2	0368.2	0370.3	0372.4	0374.5	0376.5
01.40	0378.6	0380.7	0382.7	0384.8	0386.8	0388.9	0391.0	0393.0	0395.0	0397.1
01.50	0399.1	0401.2	0403.2	0405.2	0407.2	0409.3	0411.3	0413.3	0415.3	0417.3
01.60	0419.3	0421.4	0423.4	0425.4	0427.4	0429.4	0431.4	0433.3	0435.3	0437.3
01.70	0439.3	0441.3	0443.3	0445.2	0447.2	0449.2	0451.2	0453.1	0455.1	0457.1
01.80	0459.0	0461.0	0462.9	0464.9	0466.8	0468.8	0470.7	0472.7	0474.6	0476.6
01.90	0478.5	0480.4	0482.4	0484.3	0486.2	0488.1	0490.1	0492.0	0493.9	0495.8
02.00	0497.8	0499.7	0501.6	0503.5	0505.4	0507.3	0509.2	0511.1	0513.0	0514.9
02.10	0516.8	0518.7	0520.6	0522.5	0524.4	0526.3	0528.1	0530.0	0531.9	0533.8
02.20	0535.7	0537.5	0539.4	0541.3	0543.2	0545.0	0546.9	0548.8	0550.6	0552.5
02.30	0554.4	0556.2	0558.1	0559.9	0561.8	0563.6	0565.5	0567.4	0569.2	0571.0
02.40	0572.9	0574.7	0576.6	0578.4	0580.3	0582.1	0583.9	0585.8	0587.6	0589.5
02.50	0591.3	0593.1	0595.0	0596.8	0598.6	0600.4	0602.3	0604.1	0605.9	0607.7
02.60	0609.6	0611.4	0613.2	0615.0	0616.8	0618.6	0620.5	0622.3	0624.1	0625.9
02.70	0627.7	0629.5	0631.3	0633.1	0634.9	0636.8	0638.6	0640.4	0642.2	0644.0
02.80	0645.8	0647.6	0649.4	0651.2	0653.0	0654.8	0656.6	0658.4	0660.2	0662.0
02.90	0663.8	0665.5	0667.3	0669.1	0670.9	0672.7	0674.5	0676.3	0678.1	0679.9
03.00	0681.7	0683.5	0685.3	0687.1	0688.9	0690.7	0692.5	0694.3	0696.1	0697.9
03.10	0699.4	0701.2	0703.0	0704.7	0706.5	0708.3	0710.0	0711.8	0713.5	0715.3
03.20	0717.1	0718.8	0720.6	0722.3	0724.1	0725.8	0727.6	0729.3	0731.1	0732.8
03.30	0734.6	0736.3	0738.1	0739.8	0741.6	0743.3	0745.1	0746.8	0748.6	0750.3
03.40	0752.1	0753.8	0755.5	0757.3	0759.0	0760.8	0762.5	0764.2	0766.0	0767.7
03.50	0769.4	0771.2	0772.9	0774.6	0776.4	0778.1	0779.8	0781.6	0783.3	0785.0
03.60	0786.7	0788.5	0790.2	0791.9	0793.6	0795.4	0797.1	0798.8	0800.5	0802.3
03.70	0804.0	0805.7	0807.4	0809.1	0810.8	0812.6	0814.3	0816.0	0817.7	0819.4
03.80	0821.1	0822.8	0824.6	0826.3	0828.0	0829.7	0831.4	0833.1	0834.8	0836.5
03.90	0838.2	0839.9	0841.6	0843.3	0845.0	0846.7	0848.4	0850.1	0851.8	0853.5
04.00	0855.2	0856.9	0858.6	0860.3	0862.0	0863.7	0865.4	0867.1	0868.8	0870.5
04.10	0872.1	0873.8	0875.5	0877.2	0878.9	0880.6	0882.3	0884.0	0885.6	0887.3
04.20	0889.0	0890.7	0892.4	0894.1	0895.7	0897.4	0899.1	0900.8	0902.4	0904.1
04.30	0905.8	0907.5	0909.1	0910.8	0912.5	0914.2	0915.8	0917.5	0919.2	0920.8
04.40	0922.5	0924.2	0925.9	0927.5	0929.2	0930.9	0932.5	0934.2	0935.9	0937.5
04.50	0938.2	0940.8	0942.5	0944.1	0945.8	0947.5	0949.1	0950.8	0952.4	0954.1
04.60	0955.7	0957.4	0959.0	0960.7	0962.3	0964.0	0965.6	0967.3	0968.9	0970.6
04.70	0972.2	0973.9	0975.5	0977.2	0978.8	0980.5	0982.1	0983.8	0985.4	0987.0
04.80	0983.7	0985.3	0987.0	0988.6	0990.2	0991.9	0993.5	1000.1	1001.7	1003.4
04.90	1005.0	1006.7	1008.3	1009.9	1011.6	1013.2	1014.8	1016.5	1018.1	1019.7

Temperature, °F

TABLE 6 PLATINUM-PLATINUM + 13% RHODIUM (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
05.00	1021.4	1023.0	1024.6	1026.2	1027.9	1029.5	1031.1	1032.7	1034.3	1036.0
05.10	1037.6	1039.2	1040.8	1042.4	1044.1	1045.7	1047.3	1048.9	1050.5	1052.1
05.20	1053.3	1055.4	1057.0	1058.6	1060.2	1061.8	1063.4	1065.0	1066.7	1068.3
05.30	1062.9	1071.5	1073.1	1074.7	1076.3	1077.9	1079.5	1081.1	1082.7	1084.3
05.40	1085.9	1087.5	1089.1	1090.7	1092.3	1093.9	1095.5	1097.1	1098.7	1100.3
05.50	1101.9	1103.5	1105.1	1106.7	1108.3	1109.9	1111.5	1113.0	1114.6	1116.2
05.60	1117.8	1119.4	1121.0	1122.6	1124.2	1125.8	1127.3	1128.9	1130.5	1132.1
05.70	1133.7	1135.3	1136.8	1138.4	1140.0	1141.6	1143.2	1144.7	1146.3	1147.9
05.80	1149.5	1151.0	1152.6	1154.2	1155.8	1157.3	1158.9	1160.5	1162.1	1163.6
05.90	1165.2	1166.8	1168.3	1169.9	1171.5	1173.0	1174.5	1176.2	1177.7	1179.3
06.00	1180.9	1182.4	1184.0	1185.6	1187.1	1188.7	1190.3	1191.8	1193.4	1194.9
06.10	1196.5	1198.1	1199.6	1201.2	1202.7	1204.3	1205.8	1207.4	1209.0	1210.5
06.20	1212.1	1213.6	1215.2	1216.7	1218.3	1219.8	1221.4	1222.9	1224.5	1226.0
06.30	1227.6	1229.1	1230.7	1232.2	1233.7	1235.3	1236.8	1238.4	1239.9	1241.5
06.40	1243.0	1244.5	1246.1	1247.6	1249.2	1250.7	1252.2	1253.8	1255.3	1256.9
06.50	1258.4	1259.9	1261.5	1263.0	1264.5	1266.1	1267.6	1269.1	1270.7	1272.2
06.60	1273.7	1275.3	1276.8	1278.3	1279.9	1281.4	1282.9	1284.4	1286.0	1287.5
06.70	1289.0	1290.5	1292.1	1293.6	1295.1	1296.6	1298.2	1299.7	1301.2	1302.7
06.80	1304.2	1305.8	1307.3	1308.8	1310.3	1311.8	1313.4	1314.9	1316.4	1317.9
06.90	1319.4	1320.9	1322.4	1324.0	1325.5	1327.0	1328.5	1330.0	1331.5	1333.0
07.00	1334.5	1336.0	1337.6	1339.1	1340.6	1342.1	1343.6	1345.1	1346.6	1348.1
07.10	1349.6	1351.1	1352.6	1354.1	1355.6	1357.1	1358.6	1360.1	1361.6	1363.1
07.20	1364.6	1366.1	1367.6	1369.1	1370.6	1372.1	1373.6	1375.1	1376.6	1378.1
07.30	1379.6	1381.1	1382.6	1384.1	1385.6	1387.1	1388.6	1390.1	1391.5	1393.0
07.40	1394.5	1396.0	1397.5	1399.0	1400.5	1402.0	1403.5	1404.9	1406.4	1407.9
07.50	1409.4	1410.9	1412.4	1413.9	1415.3	1416.8	1418.3	1419.8	1421.3	1422.7
07.60	1424.2	1425.7	1427.2	1428.7	1430.1	1431.6	1433.1	1434.6	1436.1	1437.5
07.70	1439.0	1440.5	1442.0	1443.4	1444.9	1446.4	1447.9	1449.3	1450.8	1452.3
07.80	1453.7	1455.2	1456.7	1458.2	1459.6	1461.1	1462.6	1464.0	1465.5	1467.0
07.90	1468.4	1469.9	1471.4	1472.8	1474.3	1475.8	1477.2	1478.7	1480.1	1481.6
08.00	1483.1	1484.5	1486.0	1487.5	1488.9	1490.4	1491.8	1493.3	1494.8	1496.2
08.10	1497.7	1499.1	1500.6	1502.0	1503.5	1505.0	1506.4	1507.9	1509.3	1510.8
08.20	1512.2	1513.7	1515.1	1516.6	1518.0	1519.5	1520.9	1522.4	1523.8	1525.3
08.30	1526.7	1528.2	1529.6	1531.1	1532.5	1534.0	1535.4	1536.9	1538.3	1539.8
08.40	1541.2	1542.7	1544.1	1545.5	1547.0	1548.4	1549.9	1551.3	1552.8	1554.2
08.50	1555.6	1557.1	1558.5	1560.0	1561.4	1562.8	1564.3	1565.7	1567.2	1568.6
08.60	1570.0	1571.5	1572.9	1574.3	1575.8	1577.2	1578.6	1580.1	1581.5	1582.9
08.70	1584.4	1585.8	1587.2	1588.7	1590.1	1591.5	1593.0	1594.4	1595.8	1597.3
08.80	1598.7	1600.1	1601.6	1603.0	1604.4	1605.8	1607.3	1608.7	1610.1	1611.5
08.90	1613.0	1614.4	1615.8	1617.2	1618.7	1620.1	1621.5	1622.9	1624.4	1625.8
09.00	1627.2	1628.6	1630.0	1631.5	1632.9	1634.3	1635.7	1637.1	1638.6	1640.0
09.10	1641.4	1642.8	1644.2	1645.7	1647.1	1648.5	1649.9	1651.3	1652.7	1654.2
09.20	1655.6	1657.0	1658.4	1659.8	1661.2	1662.6	1664.1	1665.5	1666.9	1668.3
09.30	1669.7	1671.1	1672.5	1673.9	1675.3	1676.8	1678.2	1679.6	1681.0	1682.4
09.40	1683.6	1685.2	1686.6	1688.0	1689.4	1690.8	1692.2	1693.6	1695.0	1696.5
09.50	1697.9	1699.4	1700.8	1702.2	1703.6	1705.0	1706.4	1707.8	1709.2	1710.5
09.60	1711.9	1713.3	1714.7	1716.1	1717.5	1718.9	1720.3	1721.7	1723.1	1724.5
09.70	1725.9	1727.2	1728.6	1730.0	1731.4	1732.8	1734.2	1735.6	1737.0	1738.3
09.80	1732.7	1734.1	1735.5	1736.9	1738.3	1739.7	1741.0	1742.4	1743.8	1745.2
09.90	1753.6	1754.9	1756.3	1757.7	1759.1	1760.5	1761.9	1763.2	1764.6	1766.0

Temperature, °F



TABLE 6 PLATINUM-PLATINUM + 13% RHODIUM (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
10.00	1767.4	1768.7	1770.1	1771.5	1772.9	1774.2	1775.6	1777.0	1778.4	1779.7
10.10	1781.1	1782.5	1783.9	1785.2	1786.6	1788.0	1789.3	1790.7	1792.1	1793.5
10.20	1794.3	1795.7	1797.0	1798.4	1799.8	1801.1	1802.5	1803.9	1805.2	1806.6
10.30	1809.5	1810.9	1812.2	1813.6	1814.9	1816.3	1817.7	1819.0	1820.4	1821.8
10.40	1822.9	1824.3	1825.6	1827.0	1828.3	1829.7	1831.0	1832.4	1833.8	1835.1
10.50	1835.6	1837.1	1838.5	1839.8	1841.2	1842.6	1843.9	1845.3	1846.6	1848.0
10.60	1849.3	1850.7	1852.0	1853.4	1854.8	1856.1	1857.5	1858.8	1860.2	1861.5
10.70	1862.9	1864.2	1865.6	1866.9	1868.3	1869.6	1871.0	1872.3	1873.7	1875.0
10.80	1876.4	1877.7	1879.1	1880.4	1881.8	1883.1	1884.5	1885.8	1887.2	1888.5
10.90	1889.9	1891.2	1892.5	1893.9	1895.2	1896.6	1897.9	1899.3	1900.6	1902.0
11.00	1903.3	1904.6	1906.0	1907.3	1908.7	1910.0	1911.4	1912.7	1914.0	1915.4
11.10	1916.7	1918.1	1919.4	1920.7	1922.1	1923.4	1924.7	1926.1	1927.4	1928.8
11.20	1930.1	1931.4	1932.8	1934.1	1935.4	1936.8	1938.1	1939.5	1940.8	1942.1
11.30	1943.5	1944.8	1946.1	1947.5	1948.8	1950.1	1951.5	1952.8	1954.1	1955.5
11.40	1956.3	1958.1	1959.4	1960.7	1962.1	1963.4	1964.8	1966.1	1967.4	1968.8
11.50	1970.1	1971.4	1972.7	1974.1	1975.4	1976.7	1978.1	1979.4	1980.7	1982.0
11.60	1983.4	1984.7	1986.0	1987.3	1988.7	1990.0	1991.3	1992.6	1994.0	1995.3
11.70	1996.6	1997.9	1999.3	2000.6	2001.9	2003.2	2004.6	2005.9	2007.2	2008.5
11.80	2009.8	2011.2	2012.5	2013.8	2015.1	2016.5	2017.8	2019.1	2020.4	2021.7
11.90	2023.1	2024.4	2025.7	2027.0	2028.3	2029.6	2031.0	2032.3	2033.6	2034.9
12.00	2036.2	2037.6	2038.9	2040.2	2041.5	2042.8	2044.1	2045.5	2046.8	2048.1
12.10	2049.4	2050.7	2052.0	2053.3	2054.7	2056.0	2057.3	2058.6	2059.9	2061.2
12.20	2062.5	2063.9	2065.2	2066.5	2067.8	2069.1	2070.4	2071.7	2073.0	2074.4
12.30	2075.7	2077.0	2078.3	2079.6	2080.9	2082.2	2083.5	2084.8	2086.1	2087.5
12.40	2088.8	2090.1	2091.4	2092.7	2094.0	2095.3	2096.6	2097.9	2099.2	2100.6
12.50	2101.9	2103.2	2104.5	2105.8	2107.1	2108.4	2109.7	2111.0	2112.3	2113.6
12.60	2114.9	2116.2	2117.5	2118.8	2120.1	2121.4	2122.7	2124.0	2125.3	2126.6
12.70	2128.0	2129.3	2130.6	2131.9	2133.2	2134.5	2135.8	2137.1	2138.4	2139.7
12.80	2141.0	2142.3	2143.6	2144.9	2146.2	2147.5	2148.8	2150.1	2151.4	2152.7
12.90	2154.1	2155.4	2156.7	2158.0	2159.3	2160.6	2161.9	2163.2	2164.5	2165.8
13.00	2167.1	2168.4	2169.7	2171.0	2172.3	2173.6	2174.9	2176.2	2177.5	2178.8
13.10	2180.1	2181.4	2182.7	2184.0	2185.3	2186.6	2187.9	2189.2	2190.5	2191.8
13.20	2193.1	2194.4	2195.7	2197.0	2198.3	2199.6	2200.9	2202.2	2203.5	2204.7
13.30	2206.0	2207.3	2208.6	2209.9	2211.2	2212.5	2213.8	2215.1	2216.4	2217.7
13.40	2219.0	2220.3	2221.6	2222.9	2224.2	2225.5	2226.8	2228.1	2229.4	2230.7
13.50	2232.0	2233.3	2234.6	2235.9	2237.2	2238.5	2239.8	2241.0	2242.3	2243.6
13.60	2244.9	2246.2	2247.5	2248.8	2250.1	2251.4	2252.7	2254.0	2255.3	2256.6
13.70	2257.9	2259.2	2260.5	2261.8	2263.1	2264.4	2265.7	2266.9	2268.2	2269.5
13.80	2270.8	2272.1	2273.4	2274.7	2276.0	2277.3	2278.6	2279.9	2281.2	2282.5
13.90	2283.5	2285.1	2286.3	2287.6	2288.9	2290.2	2291.5	2292.8	2294.1	2295.4
14.00	2296.7	2298.0	2299.3	2300.6	2301.9	2303.2	2304.5	2305.7	2307.0	2308.3
14.10	2309.6	2310.9	2312.2	2313.5	2314.8	2316.1	2317.4	2318.7	2320.0	2321.3
14.20	2322.6	2323.9	2325.1	2326.4	2327.7	2329.0	2330.3	2331.6	2332.9	2334.2
14.30	2335.5	2336.8	2338.1	2339.4	2340.7	2341.9	2343.2	2344.5	2345.8	2347.1
14.40	2348.4	2349.7	2351.0	2352.3	2353.6	2354.9	2356.2	2357.5	2358.7	2360.0
14.50	2361.3	2362.6	2363.9	2365.2	2366.5	2367.8	2369.1	2370.4	2371.7	2373.0
14.60	2374.3	2375.6	2376.9	2378.1	2379.4	2380.7	2382.0	2383.3	2384.6	2385.9
14.70	2387.2	2388.5	2389.8	2391.1	2392.4	2393.7	2395.0	2396.3	2397.6	2398.9
14.80	2400.1	2401.4	2402.7	2404.0	2405.3	2406.6	2407.9	2409.2	2410.5	2411.8
14.90	2413.1	2414.4	2415.7	2416.9	2418.2	2419.5	2420.8	2422.1	2423.4	2424.7

Temperature, °F

TABLE 6 PLATINUM-PLATINUM + 13% RHODIUM (Concluded)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
15.00	2426.0	2427.3	2428.6	2429.9	2431.2	2432.5	2433.8	2435.1	2436.4	2437.7
15.10	2439.0	2440.3	2441.5	2442.8	2444.1	2445.4	2446.7	2448.0	2449.3	2450.6
15.20	2451.9	2453.2	2454.5	2455.8	2457.1	2458.4	2459.7	2461.0	2462.3	2463.6
15.30	2464.9	2466.2	2467.5	2468.8	2470.1	2471.4	2472.7	2474.0	2475.3	2476.6
15.40	2477.3	2479.1	2480.4	2481.7	2483.0	2484.3	2485.6	2486.9	2488.2	2489.5
15.50	2490.8	2492.1	2493.4	2494.7	2496.0	2497.3	2498.6	2499.9	2501.2	2502.5
15.60	2503.8	2505.1	2506.4	2507.7	2509.0	2510.3	2511.6	2512.9	2514.2	2515.5
15.70	2516.8	2518.1	2519.4	2520.7	2522.0	2523.3	2524.6	2525.9	2527.2	2528.5
15.80	2529.8	2531.1	2532.4	2533.7	2535.1	2536.3	2537.7	2539.0	2540.3	2541.6
15.90	2542.9	2544.2	2545.5	2546.8	2548.1	2549.4	2550.7	2552.0	2553.3	2554.6
16.00	2555.9	2557.2	2558.5	2559.8	2561.1	2562.4	2563.7	2565.0	2566.4	2567.7
16.10	2569.0	2570.3	2571.6	2572.9	2574.2	2575.5	2576.8	2578.1	2579.4	2580.7
16.20	2582.0	2583.3	2584.7	2586.0	2587.3	2588.6	2589.9	2591.2	2592.5	2593.8
16.30	2595.1	2596.4	2597.7	2599.1	2600.4	2601.7	2603.0	2604.3	2605.6	2606.9
16.40	2608.2	2609.2	2610.5	2611.8	2613.1	2614.4	2615.6	2616.9	2618.2	2619.5
16.50	2620.8	2622.1	2623.4	2624.7	2626.0	2627.3	2628.6	2629.9	2631.1	2632.4
16.60	2633.7	2635.0	2636.3	2637.5	2638.8	2640.2	2641.5	2642.8	2644.1	2645.4
16.70	2646.7	2648.0	2649.3	2650.6	2651.9	2653.2	2654.5	2655.8	2657.1	2658.4
16.80	2659.7	2661.0	2662.3	2663.6	2664.9	2666.2	2667.5	2668.8	2670.1	2671.4
16.90	2672.7	2673.9	2675.3	2676.6	2677.8	2679.2	2680.5	2681.8	2683.1	2684.4
17.00	2685.7	2687.0	2688.3	2689.6	2690.9	2692.2	2693.5	2694.8	2696.1	2697.4
17.10	2698.7	2700.0	2701.3	2702.6	2703.9	2705.2	2706.5	2707.8	2709.1	2710.4
17.20	2711.7	2713.0	2714.3	2715.6	2716.9	2718.2	2719.5	2720.9	2722.2	2723.5
17.30	2724.3	2726.1	2727.4	2728.7	2730.0	2731.3	2732.6	2733.9	2735.2	2736.5
17.40	2737.8	2739.1	2740.4	2741.7	2743.0	2744.4	2745.7	2747.0	2748.3	2749.6
17.50	2750.9	2752.2	2753.5	2754.8	2756.1	2757.4	2758.7	2760.0	2761.3	2762.6
17.60	2764.0	2765.3	2766.6	2767.9	2769.2	2770.5	2771.8	2773.1	2774.4	2775.7
17.70	2777.0	2778.3	2779.6	2780.9	2782.2	2783.6	2784.9	2786.2	2787.5	2788.8
17.80	2790.1	2791.4	2792.7	2794.0	2795.3	2796.6	2797.9	2799.2	2800.5	2802.0
17.90	2803.4	2804.7	2806.0	2807.3	2808.6	2809.9	2811.2	2812.5	2813.8	2815.1
18.00	2816.4	2817.8	2819.1	2820.4	2821.7	2823.0	2824.3	2825.6	2826.9	2828.2
18.10	2829.6	2830.9	2832.2	2833.5	2834.8	2836.1	2837.4	2838.7	2840.1	2841.4
18.20	2842.7	2844.0	2845.3	2846.6	2847.9	2849.2	2850.6	2851.9	2853.2	2854.5
18.30	2855.8	2857.1	2858.4	2859.8	2861.1	2862.4	2863.7	2865.0	2866.3	2867.7
18.40	2869.0	2870.3	2871.6	2872.9	2874.2	2875.5	2876.9	2878.2	2879.5	2880.8
18.50	2882.1	2883.4	2884.8	2886.1	2887.4	2888.7	2890.0	2891.3	2892.7	2894.0
18.60	2895.3	2896.6	2897.9	2899.2	2900.6	2901.9	2903.2	2904.5	2905.8	2907.2
18.70	2908.5	2909.8	2911.1	2912.4	2913.7	2915.1	2916.4	2917.7	2919.0	2920.3
18.80	2921.7	2923.0	2924.3	2925.6	2926.9	2928.2	2929.6	2930.9	2932.2	2933.5
18.90	2934.8	2936.2	2937.5	2938.8	2940.1	2941.4	2942.8	2944.1	2945.4	2946.7
19.00	2948.0	2949.4	2950.7	2952.0	2953.3	2954.6	2956.0	2957.3	2958.6	2959.9
19.10	2961.3	2962.6	2963.9	2965.2	2966.5	2967.9	2969.2	2970.5	2971.8	2973.1
19.20	2974.5	2975.8	2977.1	2978.4	2979.7	2981.1	2982.4	2983.7	2985.0	2986.4
19.30	2987.7	2989.0	2990.3	2991.6	2993.0	2994.3	2995.6	2996.9	2998.2	2999.6
19.40	3000.9	3002.2	3003.5	3004.9	3006.2	3007.5	3008.8	3010.1	3011.5	3012.8
19.50	3014.1	3015.4	3016.8	3018.1	3019.4	3020.7	3022.0	3023.4	3024.7	3026.0
19.60	3027.3	3028.7	3030.0	3031.3	3032.6	3033.9	3035.3	3036.6	3037.9	3039.2
19.70	3040.5	3041.9	3043.2	3044.5	3045.8	3047.2	3048.5	3049.8	3051.1	3052.5
19.80	3053.8	3055.1	3056.4	3057.7	3059.1	3060.4	3061.7	3063.0	3064.3	3065.7
19.90	3067.0	3068.3	3069.6	3071.0	3072.3	3073.6	3074.9	3076.2	3077.6	3078.9

Temperature, °F

Table 7  
Copper-Constantan

TABLE 7  
TEMPERATURE VS MILLIVOLTS FOR COPPER-CONSTANTAN THERMOCOUPLES

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-04.90	-0263.8	-0264.7	-0265.6	-0266.5	-0267.4	-0268.3	-0269.2	-0270.1	-0271.0	-0271.9
-04.80	-0255.1	-0256.0	-0256.9	-0257.7	-0258.6	-0259.4	-0260.3	-0261.2	-0262.1	-0262.9
-04.70	-0246.5	-0247.4	-0248.2	-0249.1	-0249.9	-0250.8	-0251.6	-0252.5	-0253.4	-0254.2
-04.60	-0238.2	-0239.0	-0239.9	-0240.7	-0241.5	-0242.4	-0243.2	-0244.0	-0244.9	-0245.7
-04.50	-0230.0	-0230.9	-0231.7	-0232.5	-0233.3	-0234.1	-0234.9	-0235.7	-0236.6	-0237.4
-04.40	-0222.1	-0222.9	-0223.7	-0224.4	-0225.2	-0226.0	-0226.8	-0227.6	-0228.4	-0229.2
-04.30	-0214.3	-0215.0	-0215.8	-0216.6	-0217.4	-0218.2	-0218.9	-0219.7	-0220.5	-0221.3
-04.20	-0206.6	-0207.4	-0208.2	-0208.9	-0209.7	-0210.4	-0211.2	-0212.0	-0212.7	-0213.5
-04.10	-0199.2	-0199.9	-0200.7	-0201.4	-0202.1	-0202.9	-0203.6	-0204.4	-0205.1	-0205.9
-04.00	-0191.9	-0192.6	-0193.3	-0194.0	-0194.8	-0195.5	-0196.2	-0197.0	-0197.7	-0198.4
-03.90	-0184.7	-0185.4	-0186.1	-0186.8	-0187.5	-0188.3	-0189.0	-0189.7	-0190.4	-0191.1
-03.80	-0177.7	-0178.4	-0179.1	-0179.8	-0180.5	-0181.2	-0181.9	-0182.6	-0183.3	-0184.0
-03.70	-0170.8	-0171.5	-0172.2	-0172.8	-0173.5	-0174.2	-0174.9	-0175.6	-0176.3	-0177.0
-03.60	-0164.0	-0164.7	-0165.4	-0166.0	-0166.7	-0167.4	-0168.1	-0168.7	-0169.4	-0170.1
-03.50	-0157.4	-0158.1	-0158.7	-0159.4	-0160.0	-0160.7	-0161.4	-0162.0	-0162.7	-0163.4
-03.40	-0150.9	-0151.6	-0152.2	-0152.8	-0153.5	-0154.1	-0154.8	-0155.4	-0156.1	-0156.8
-03.30	-0144.5	-0145.2	-0145.8	-0146.4	-0147.1	-0147.7	-0148.3	-0149.0	-0149.6	-0150.3
-03.20	-0138.2	-0138.9	-0139.5	-0140.1	-0140.7	-0141.4	-0142.0	-0142.6	-0143.3	-0143.9
-03.10	-0132.1	-0132.7	-0133.3	-0133.9	-0134.5	-0135.1	-0135.7	-0136.4	-0137.0	-0137.6
-03.00	-0126.0	-0126.6	-0127.2	-0127.8	-0128.4	-0129.0	-0129.6	-0130.2	-0130.8	-0131.4
-02.90	-0120.0	-0120.6	-0121.2	-0121.8	-0122.4	-0123.0	-0123.6	-0124.2	-0124.8	-0125.4
-02.80	-0114.1	-0114.6	-0115.2	-0115.8	-0116.4	-0117.0	-0117.6	-0118.2	-0118.8	-0119.4
-02.70	-0108.2	-0108.8	-0109.4	-0110.0	-0110.5	-0111.1	-0111.7	-0112.3	-0112.9	-0113.5
-02.60	-0102.5	-0103.0	-0103.6	-0104.2	-0104.8	-0105.3	-0105.9	-0106.5	-0107.1	-0107.6
-02.50	-0096.8	-0097.3	-0097.9	-0098.5	-0099.0	-0099.6	-0100.2	-0100.7	-0101.3	-0101.9
-02.40	-0091.1	-0091.7	-0092.2	-0092.8	-0093.4	-0093.9	-0094.5	-0095.1	-0095.6	-0096.2
-02.30	-0085.5	-0086.1	-0086.6	-0087.2	-0087.8	-0088.3	-0088.9	-0089.4	-0090.0	-0090.6
-02.20	-0080.0	-0080.5	-0081.1	-0081.6	-0082.2	-0082.8	-0083.3	-0083.9	-0084.4	-0085.0
-02.10	-0074.5	-0075.0	-0075.6	-0076.1	-0076.7	-0077.2	-0077.8	-0078.3	-0078.9	-0079.4
-02.00	-0069.0	-0069.6	-0070.1	-0070.7	-0071.2	-0071.8	-0072.3	-0072.8	-0073.4	-0073.9
-01.90	-0063.6	-0064.1	-0064.7	-0065.2	-0065.8	-0066.3	-0066.9	-0067.4	-0067.9	-0068.5
-01.80	-0058.2	-0058.7	-0059.3	-0059.8	-0060.3	-0060.9	-0061.4	-0062.0	-0062.5	-0063.1
-01.70	-0052.8	-0053.3	-0053.9	-0054.4	-0054.9	-0055.5	-0056.0	-0056.6	-0057.1	-0057.6
-01.60	-0047.4	-0047.9	-0048.5	-0049.0	-0049.6	-0050.1	-0050.6	-0051.2	-0051.7	-0052.2
-01.50	-0042.0	-0042.6	-0043.1	-0043.6	-0044.2	-0044.7	-0045.2	-0045.8	-0046.3	-0046.9
-01.40	-0036.6	-0037.2	-0037.7	-0038.3	-0038.8	-0039.3	-0039.9	-0040.4	-0040.9	-0041.5
-01.30	-0031.2	-0031.8	-0032.3	-0032.9	-0033.4	-0033.9	-0034.5	-0035.0	-0035.6	-0036.1
-01.20	-0026.2	-0026.7	-0027.2	-0027.7	-0028.2	-0028.7	-0029.2	-0029.6	-0030.2	-0030.7
-01.10	-0021.2	-0021.7	-0022.2	-0022.7	-0023.2	-0023.7	-0024.2	-0024.7	-0025.2	-0025.7
-01.00	-0016.2	-0016.7	-0017.2	-0017.7	-0018.2	-0018.7	-0019.2	-0019.7	-0020.2	-0020.7
-00.90	-0011.3	-0011.8	-0012.3	-0012.8	-0013.3	-0013.8	-0014.2	-0014.7	-0015.2	-0015.7
-00.80	-0006.4	-0006.9	-0007.4	-0007.9	-0008.3	-0008.8	-0009.3	-0009.8	-0010.3	-0010.8
-00.70	-0001.5	-0002.0	-0002.5	-0003.0	-0003.5	-0004.0	-0004.4	-0004.9	-0005.4	-0005.9
-00.60	0003.3	0002.8	0002.4	0001.9	0001.4	0000.9	0000.4	-0000.1	-0000.6	-0001.0
-00.50	0003.1	0007.7	0007.2	0006.7	0006.2	0005.7	0005.3	0004.8	0004.3	0003.8
-00.40	0012.9	0012.5	0012.0	0011.5	0011.0	0010.5	0010.1	0009.6	0009.1	0008.6
-00.30	0017.7	0017.2	0016.7	0016.3	0015.8	0015.3	0014.8	0014.4	0013.9	0013.4
-00.20	0022.4	0022.0	0021.5	0021.0	0020.5	0020.1	0019.6	0019.1	0018.6	0018.2
-00.10	0027.2	0026.7	0026.2	0025.7	0025.3	0024.8	0024.3	0023.9	0023.4	0022.9
-00.00	0031.8	0031.4	0030.9	0030.4	0030.0	0029.5	0029.0	0028.6	0028.1	0027.6

Temperature, °F

TABLE 7 COPPER-CONSTANTAN (Continued)

Millivolts	Reference junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
00.00	0031.8	0032.3	0032.8	0033.2	0033.7	0034.2	0034.6	0035.1	0035.6	0036.0
00.10	0036.5	0037.0	0037.4	0037.8	0038.4	0038.8	0039.3	0039.8	0040.2	0040.7
00.20	0041.1	0041.6	0042.1	0042.5	0043.0	0043.5	0043.9	0044.4	0044.8	0045.3
00.30	0045.8	0046.2	0046.7	0047.1	0047.6	0048.1	0048.5	0049.0	0049.4	0049.9
00.40	0050.3	0050.8	0051.3	0051.7	0052.2	0052.6	0053.1	0053.5	0054.0	0054.5
00.50	0054.9	0055.4	0055.8	0056.3	0056.7	0057.2	0057.6	0058.1	0058.5	0059.0
00.60	0059.5	0059.9	0060.4	0060.8	0061.3	0061.7	0062.2	0062.6	0063.1	0063.5
00.70	0064.0	0064.4	0064.9	0065.3	0065.8	0066.2	0066.7	0067.1	0067.6	0068.0
00.80	0068.5	0068.9	0069.4	0069.8	0070.3	0070.7	0071.1	0071.6	0072.0	0072.5
00.90	0072.9	0073.4	0073.8	0074.3	0074.7	0075.2	0075.6	0076.0	0076.5	0076.9
01.00	0077.4	0077.8	0078.3	0078.7	0079.2	0079.6	0080.0	0080.5	0080.9	0081.4
01.10	0081.8	0082.2	0082.7	0083.1	0083.6	0084.0	0084.5	0084.9	0085.3	0085.8
01.20	0086.2	0086.7	0087.1	0087.5	0088.0	0088.4	0088.8	0089.3	0089.7	0090.2
01.30	0090.6	0091.0	0091.5	0091.9	0092.3	0092.8	0093.2	0093.6	0094.1	0094.5
01.40	0095.0	0095.4	0095.8	0096.3	0096.7	0097.1	0097.6	0098.0	0098.4	0098.9
01.50	0099.3	0099.7	0100.2	0100.6	0101.0	0101.5	0101.9	0102.3	0102.7	0103.2
01.60	0103.6	0104.0	0104.5	0104.9	0105.3	0105.8	0106.2	0106.6	0107.0	0107.5
01.70	0107.9	0108.3	0108.8	0109.2	0109.6	0110.0	0110.5	0110.9	0111.3	0111.8
01.80	0112.2	0112.6	0113.0	0113.5	0113.9	0114.3	0114.7	0115.1	0115.6	0116.0
01.90	0116.4	0116.9	0117.3	0117.7	0118.1	0118.6	0119.0	0119.4	0119.8	0120.2
02.00	0120.7	0121.1	0121.5	0121.9	0122.4	0122.8	0123.2	0123.6	0124.0	0124.5
02.10	0124.9	0125.3	0125.7	0126.1	0126.6	0127.0	0127.4	0127.8	0128.2	0128.7
02.20	0129.1	0129.5	0129.9	0130.3	0130.8	0131.2	0131.6	0132.0	0132.4	0132.8
02.30	0133.3	0133.7	0134.1	0134.5	0134.9	0135.3	0135.7	0136.2	0136.6	0137.0
02.40	0137.4	0137.8	0138.2	0138.7	0139.1	0139.5	0139.9	0140.3	0140.7	0141.1
02.50	0141.5	0142.0	0142.4	0142.8	0143.2	0143.6	0144.0	0144.4	0144.8	0145.3
02.60	0145.7	0146.1	0146.5	0146.9	0147.3	0147.7	0148.1	0148.5	0148.9	0149.4
02.70	0149.8	0150.2	0150.6	0151.0	0151.4	0151.8	0152.2	0152.6	0153.0	0153.4
02.80	0153.8	0154.3	0154.7	0155.1	0155.5	0155.9	0156.3	0156.7	0157.1	0157.5
02.90	0157.9	0158.3	0158.7	0159.1	0159.5	0159.9	0160.3	0160.7	0161.2	0161.6
03.00	0162.0	0162.4	0162.8	0163.2	0163.6	0164.0	0164.4	0164.8	0165.2	0165.6
03.10	0166.0	0166.4	0166.8	0167.2	0167.6	0168.0	0168.4	0168.8	0169.2	0169.6
03.20	0170.0	0170.4	0170.8	0171.2	0171.6	0172.0	0172.4	0172.8	0173.2	0173.6
03.30	0174.0	0174.4	0174.8	0175.2	0175.6	0176.0	0176.4	0176.8	0177.2	0177.6
03.40	0178.0	0178.4	0178.8	0179.2	0179.6	0180.0	0180.4	0180.7	0181.1	0181.5
03.50	0181.9	0182.3	0182.7	0183.1	0183.5	0183.9	0184.3	0184.7	0185.1	0185.5
03.60	0185.9	0186.3	0186.7	0187.1	0187.5	0187.9	0188.2	0188.6	0189.0	0189.4
03.70	0189.8	0190.2	0190.6	0191.0	0191.4	0191.8	0192.2	0192.6	0192.9	0193.3
03.80	0193.7	0194.1	0194.5	0194.9	0195.3	0195.7	0196.1	0196.5	0196.9	0197.2
03.90	0197.6	0198.0	0198.4	0198.8	0199.2	0199.6	0200.0	0200.3	0200.7	0201.1
04.00	0201.5	0201.9	0202.3	0202.7	0203.1	0203.5	0203.8	0204.2	0204.6	0205.0
04.10	0205.4	0205.8	0206.2	0206.5	0206.9	0207.3	0207.7	0208.1	0208.5	0208.9
04.20	0209.2	0209.6	0210.0	0210.4	0210.8	0211.2	0211.5	0211.9	0212.3	0212.7
04.30	0213.1	0213.5	0213.8	0214.2	0214.6	0215.0	0215.4	0215.8	0216.1	0216.5
04.40	0216.9	0217.3	0217.7	0218.1	0218.4	0218.8	0219.2	0219.6	0220.0	0220.3
04.50	0220.7	0221.1	0221.5	0221.9	0222.2	0222.6	0223.0	0223.4	0223.8	0224.1
04.60	0224.5	0224.9	0225.3	0225.7	0226.0	0226.4	0226.8	0227.2	0227.6	0227.9
04.70	0228.3	0228.7	0229.1	0229.4	0229.8	0230.2	0230.6	0231.0	0231.3	0231.7
04.80	0232.1	0232.5	0232.8	0233.2	0233.6	0234.0	0234.3	0234.7	0235.1	0235.5
04.90	0235.8	0236.2	0236.6	0237.0	0237.3	0237.7	0238.1	0238.5	0238.8	0239.2

Temperature, °F

TABLE 7 COPPER-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °F									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
05.00	0239.6	0240.0	0240.3	0240.7	0241.1	0241.5	0241.8	0242.2	0242.6	0243.0
05.10	0243.3	0243.7	0244.1	0244.5	0244.8	0245.2	0245.6	0245.9	0246.3	0246.7
05.20	0247.1	0247.4	0247.8	0248.2	0248.5	0248.9	0249.3	0249.7	0250.0	0250.4
05.30	0250.8	0251.1	0251.5	0251.9	0252.3	0252.6	0253.0	0253.4	0253.7	0254.1
05.40	0254.5	0254.8	0255.2	0255.6	0255.9	0256.3	0256.7	0257.1	0257.4	0257.8
05.50	0258.2	0258.5	0258.9	0259.3	0259.6	0260.0	0260.4	0260.7	0261.1	0261.5
05.60	0261.8	0262.2	0262.6	0262.9	0263.3	0263.7	0264.0	0264.4	0264.8	0265.1
05.70	0265.5	0265.9	0266.2	0266.6	0267.0	0267.3	0267.7	0268.1	0268.4	0268.8
05.80	0269.2	0269.5	0269.9	0270.3	0270.6	0271.0	0271.4	0271.7	0272.1	0272.5
05.90	0272.8	0273.2	0273.6	0273.9	0274.3	0274.6	0275.0	0275.4	0275.7	0276.1
06.00	0276.5	0276.8	0277.2	0277.6	0277.9	0278.3	0278.6	0279.0	0279.4	0279.7
06.10	0280.1	0280.5	0280.8	0281.2	0281.5	0281.9	0282.3	0282.6	0283.0	0283.3
06.20	0283.7	0284.1	0284.4	0284.8	0285.2	0285.5	0285.9	0286.2	0286.6	0287.0
06.30	0287.3	0287.7	0288.0	0288.4	0288.8	0289.1	0289.5	0289.8	0290.2	0290.6
06.40	0290.9	0291.3	0291.6	0292.0	0292.4	0292.7	0293.1	0293.4	0293.8	0294.2
06.50	0294.5	0294.9	0295.2	0295.6	0296.0	0296.3	0296.7	0297.0	0297.4	0297.7
06.60	0298.1	0298.5	0298.8	0299.2	0299.5	0299.9	0300.3	0300.6	0301.0	0301.3
06.70	0301.7	0302.0	0302.4	0302.8	0303.1	0303.5	0303.8	0304.2	0304.5	0304.9
06.80	0305.3	0305.6	0306.0	0306.3	0306.7	0307.0	0307.4	0307.7	0308.1	0308.5
06.90	0308.8	0309.2	0309.5	0309.9	0310.2	0310.6	0311.0	0311.3	0311.7	0312.0
07.00	0312.4	0312.7	0313.1	0313.4	0313.8	0314.1	0314.5	0314.9	0315.2	0315.6
07.10	0315.9	0316.3	0316.6	0317.0	0317.3	0317.7	0318.0	0318.4	0318.8	0319.1
07.20	0319.5	0319.8	0320.2	0320.5	0320.9	0321.2	0321.6	0321.9	0322.3	0322.6
07.30	0323.0	0323.4	0323.7	0324.1	0324.4	0324.8	0325.1	0325.5	0325.8	0326.2
07.40	0326.5	0326.9	0327.2	0327.6	0327.9	0328.3	0328.6	0329.0	0329.3	0329.7
07.50	0330.1	0330.4	0330.8	0331.1	0331.5	0331.8	0332.2	0332.5	0332.9	0333.2
07.60	0333.6	0333.9	0334.3	0334.6	0335.0	0335.3	0335.7	0336.0	0336.4	0336.7
07.70	0337.1	0337.4	0337.8	0338.1	0338.5	0338.8	0339.2	0339.5	0339.9	0340.2
07.80	0340.6	0340.9	0341.3	0341.6	0342.0	0342.3	0342.7	0343.0	0343.4	0343.7
07.90	0344.1	0344.4	0344.8	0345.1	0345.5	0345.8	0346.2	0346.5	0346.9	0347.2
08.00	0347.6	0347.9	0348.3	0348.6	0349.0	0349.3	0349.7	0350.0	0350.4	0350.7
08.10	0351.1	0351.4	0351.8	0352.1	0352.5	0352.8	0353.2	0353.5	0353.9	0354.2
08.20	0354.6	0354.9	0355.3	0355.6	0356.0	0356.3	0356.7	0357.0	0357.4	0357.7
08.30	0358.1	0358.4	0358.8	0359.1	0359.5	0359.8	0360.2	0360.5	0360.8	0361.2
08.40	0361.5	0361.9	0362.2	0362.6	0362.9	0363.3	0363.6	0364.0	0364.3	0364.7
08.50	0365.0	0365.4	0365.7	0366.1	0366.4	0366.8	0367.1	0367.5	0367.8	0368.2
08.60	0368.5	0368.8	0369.2	0369.5	0369.9	0370.2	0370.6	0370.9	0371.3	0371.6
08.70	0372.0	0372.3	0372.7	0373.0	0373.4	0373.7	0374.1	0374.4	0374.7	0375.1
08.80	0375.4	0375.8	0376.1	0376.5	0376.8	0377.2	0377.5	0377.9	0378.2	0378.6
08.90	0378.9	0379.3	0379.6	0380.0	0380.3	0380.6	0381.0	0381.3	0381.7	0382.0
09.00	0382.4	0382.6	0383.0	0383.3	0383.7	0384.0	0384.3	0384.7	0385.0	0385.3
09.10	0385.7	0386.0	0386.4	0386.7	0387.0	0387.4	0387.7	0388.0	0388.4	0388.7
09.20	0389.1	0389.4	0389.7	0390.1	0390.4	0390.7	0391.1	0391.4	0391.8	0392.1
09.30	0392.4	0392.8	0393.1	0393.4	0393.8	0394.1	0394.5	0394.8	0395.1	0395.5
09.40	0395.8	0396.1	0396.5	0396.8	0397.1	0397.5	0397.8	0398.2	0398.5	0398.8
09.50	0399.2	0399.5	0399.8	0400.2	0400.5	0400.8	0401.2	0401.5	0401.8	0402.2
09.60	0402.5	0402.9	0403.2	0403.5	0403.9	0404.2	0404.5	0404.9	0405.2	0405.5
09.70	0405.9	0406.2	0406.5	0406.9	0407.2	0407.5	0407.9	0408.2	0408.5	0408.9
09.80	0409.2	0409.5	0409.9	0410.2	0410.6	0410.9	0411.2	0411.6	0411.9	0412.2
09.90	0412.6	0412.9	0413.2	0413.6	0413.9	0414.2	0414.6	0414.9	0415.2	0415.6

Temperature, °F

TABLE 7 COPPER-CONSTANTAN (Continued)

Millivolts	Reference Junction, 32 °P									
	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
10.00	0415.9	0416.2	0416.6	0416.9	0417.2	0417.6	0417.9	0418.2	0418.6	0418.9
10.10	0419.2	0419.5	0419.9	0420.2	0420.5	0420.9	0421.2	0421.5	0421.9	0422.2
10.20	0422.5	0422.9	0423.2	0423.5	0423.9	0424.2	0424.5	0424.9	0425.2	0425.5
10.30	0425.9	0426.2	0426.5	0426.9	0427.2	0427.5	0427.8	0428.2	0428.5	0428.8
10.40	0429.2	0429.5	0429.8	0430.2	0430.5	0430.8	0431.2	0431.5	0431.8	0432.1
10.50	0432.5	0432.8	0433.1	0433.5	0433.8	0434.1	0434.5	0434.8	0435.1	0435.5
10.60	0435.8	0436.1	0436.4	0436.8	0437.1	0437.4	0437.8	0438.1	0438.4	0438.7
10.70	0439.1	0439.4	0439.7	0440.1	0440.4	0440.7	0441.1	0441.4	0441.7	0442.0
10.80	0442.4	0442.7	0443.0	0443.4	0443.7	0444.0	0444.3	0444.7	0445.0	0445.3
10.90	0445.7	0446.0	0446.3	0446.6	0447.0	0447.3	0447.6	0448.0	0448.3	0448.6
11.00	0448.9	0449.3	0449.6	0449.9	0450.2	0450.6	0450.9	0451.2	0451.6	0451.9
11.10	0452.2	0452.5	0452.9	0453.2	0453.5	0453.8	0454.2	0454.5	0454.8	0455.2
11.20	0455.5	0455.8	0456.1	0456.5	0456.8	0457.1	0457.4	0457.8	0458.1	0458.4
11.30	0458.7	0459.1	0459.4	0459.7	0460.1	0460.4	0460.7	0461.1	0461.4	0461.7
11.40	0462.0	0462.3	0462.7	0463.0	0463.3	0463.6	0464.0	0464.3	0464.6	0464.9
11.50	0465.3	0465.6	0465.9	0466.2	0466.6	0466.9	0467.2	0467.5	0467.9	0468.2
11.60	0468.5	0468.8	0469.2	0469.5	0469.8	0470.1	0470.5	0470.8	0471.1	0471.4
11.70	0471.8	0472.1	0472.4	0472.7	0473.1	0473.4	0473.7	0474.0	0474.4	0474.7
11.80	0475.0	0475.3	0475.6	0476.0	0476.3	0476.6	0476.9	0477.3	0477.6	0477.9
11.90	0478.2	0478.6	0478.9	0479.2	0479.5	0479.9	0480.2	0480.5	0480.8	0481.1
12.00	0481.5	0481.8	0482.1	0482.4	0482.8	0483.1	0483.4	0483.7	0484.0	0484.4
12.10	0484.7	0485.0	0485.3	0485.7	0486.0	0486.3	0486.6	0486.9	0487.3	0487.6
12.20	0487.9	0488.2	0488.6	0488.9	0489.2	0489.5	0489.8	0490.2	0490.5	0490.8
12.30	0491.1	0491.5	0491.8	0492.1	0492.4	0492.7	0493.1	0493.4	0493.7	0494.0
12.40	0494.3	0494.7	0495.0	0495.3	0495.6	0495.9	0496.3	0496.6	0496.9	0497.2
12.50	0497.5	0497.9	0498.2	0498.5	0498.8	0499.1	0499.5	0499.8	0500.1	0500.4
12.60	0500.7	0501.1	0501.4	0501.7	0502.0	0502.3	0502.7	0503.0	0503.3	0503.6
12.70	0503.9	0504.3	0504.6	0504.9	0505.2	0505.5	0505.9	0506.2	0506.5	0506.8
12.80	0507.1	0507.5	0507.8	0508.1	0508.4	0508.7	0509.1	0509.4	0509.7	0510.0
12.90	0510.3	0510.6	0511.0	0511.3	0511.6	0511.9	0512.2	0512.6	0512.9	0513.2
13.00	0513.5	0513.8	0514.1	0514.5	0514.8	0515.1	0515.4	0515.7	0516.1	0516.4
13.10	0516.7	0517.0	0517.3	0517.6	0518.0	0518.3	0518.6	0518.9	0519.2	0519.5
13.20	0519.9	0520.2	0520.5	0520.8	0521.1	0521.4	0521.8	0522.1	0522.4	0522.7
13.30	0523.0	0523.3	0523.7	0524.0	0524.3	0524.6	0524.9	0525.2	0525.6	0525.9
13.40	0526.2	0526.5	0526.8	0527.1	0527.5	0527.8	0528.1	0528.4	0528.7	0529.0
13.50	0529.4	0529.7	0530.0	0530.3	0530.6	0530.9	0531.3	0531.6	0531.9	0532.2
13.60	0532.5	0532.8	0533.1	0533.5	0533.8	0534.1	0534.4	0534.7	0535.0	0535.3
13.70	0535.7	0536.0	0536.3	0536.6	0536.9	0537.2	0537.6	0537.9	0538.2	0538.5
13.80	0538.8	0539.1	0539.4	0539.8	0540.1	0540.4	0540.7	0541.0	0541.3	0541.6
13.90	0542.0	0542.3	0542.6	0542.9	0543.2	0543.5	0543.8	0544.2	0544.5	0544.8
14.00	0545.1	0545.4	0545.7	0546.0	0546.3	0546.7	0547.0	0547.3	0547.6	0547.9
14.10	0548.2	0548.5	0548.9	0549.2	0549.5	0549.8	0550.1	0550.4	0550.7	0551.0
14.20	0551.4	0551.7	0552.0	0552.3	0552.6	0552.9	0553.2	0553.5	0553.9	0554.2
14.30	0554.5	0554.8	0555.1	0555.4	0555.7	0556.0	0556.4	0556.7	0557.0	0557.3
14.40	0557.6	0557.9	0558.2	0558.5	0558.9	0559.2	0559.5	0559.8	0560.1	0560.4
14.50	0560.7	0561.0	0561.3	0561.7	0562.0	0562.3	0562.6	0562.9	0563.2	0563.5
14.60	0563.8	0564.1	0564.5	0564.8	0565.1	0565.4	0565.7	0566.0	0566.3	0566.6
14.70	0566.9	0567.3	0567.6	0567.9	0568.2	0568.5	0568.8	0569.1	0569.4	0569.7
14.80	0570.0	0570.4	0570.7	0571.0	0571.3	0571.6	0571.9	0572.2	0572.5	0572.8
14.90	0573.2	0573.5	0573.8	0574.1	0574.4	0574.7	0575.0	0575.3	0575.6	0575.9

Temperature, °P

TABLE 7 COPPER-CONSTANTAN (Concluded)

Reference Temperature, °C	Reference Junction Temperature, °C									
	100	101	102	103	104	105	106	107	108	109
15.00	0570.2	0570.6	0570.7	0571.2	0571.5	0571.5	0571.5	0571.7	0571.7	0571.9
15.10	0571.3	0571.6	0580.0	0580.5	0580.8	0580.2	0581.2	0581.2	0581.2	0581.3
15.20	0571.5	0582.7	0583.0	0583.5	0583.7	0584.0	0584.3	0584.6	0584.9	0585.1
15.30	0571.5	0583.8	0584.1	0584.5	0584.7	0584.9	0584.9	0584.9	0585.0	0585.1
15.40	0571.9	0584.9	0584.7	0584.5	0584.5	0584.4	0584.4	0584.4	0584.4	0584.4
15.50	0571.7	0584.0	0584.3	0584.7	0584.9	0584.7	0584.5	0584.2	0584.1	0584.1
15.60	0571.7	0584.1	0584.5	0584.7	0584.6	0584.5	0584.3	0584.1	0584.0	0584.0
15.70	0571.5	0583.3	0583.4	0583.7	0584.0	0584.1	0584.1	0584.0	0584.1	0584.0
15.80	0571.2	0601.2	0601.5	0601.3	0601.1	0601.1	0601.1	0601.0	0601.1	0601.0
15.90	0571.2	0601.2	0601.2	0601.2	0601.2	0601.2	0601.2	0601.2	0601.2	0601.2
16.00	0571.0	0607.3	0607.6	0607.9	0608.2	0608.4	0608.3	0608.1	0608.1	0608.1
16.10	0570.1	0610.4	0610.7	0611.0	0611.3	0611.6	0611.9	0612.2	0612.5	0612.7
16.20	0570.1	0613.4	0613.7	0614.0	0614.3	0614.6	0614.9	0615.2	0615.5	0615.7
16.30	0570.1	0616.5	0616.8	0617.1	0617.4	0617.7	0618.0	0618.3	0618.6	0618.9
16.40	0570.2	0619.5	0619.8	0620.1	0620.4	0620.7	0621.0	0621.3	0621.6	0621.9
16.50	0570.7	0622.5	0622.8	0623.1	0623.4	0623.7	0624.0	0624.3	0624.6	0624.9
16.60	0570.5	0625.6	0625.9	0626.2	0626.5	0626.8	0627.1	0627.4	0627.7	0628.0
16.70	0570.5	0628.6	0628.9	0629.2	0629.5	0629.8	0630.1	0630.4	0630.7	0631.0
16.80	0570.5	0631.6	0631.9	0632.2	0632.5	0632.8	0633.1	0633.4	0633.7	0634.0
16.90	0570.4	0634.7	0635.0	0635.3	0635.6	0635.9	0636.2	0636.5	0636.8	0637.1
17.00	0570.4	0637.7	0638.0	0638.3	0638.6	0638.9	0639.2	0639.5	0639.8	0640.1
17.10	0570.4	0640.7	0641.0	0641.3	0641.6	0641.9	0642.2	0642.5	0642.8	0643.1
17.20	0570.4	0643.7	0644.0	0644.3	0644.6	0644.9	0645.2	0645.5	0645.8	0646.1
17.30	0570.4	0646.7	0647.0	0647.3	0647.6	0647.9	0648.2	0648.5	0648.8	0649.1
17.40	0570.4	0649.7	0650.0	0650.3	0650.6	0650.9	0651.2	0651.5	0651.8	0652.1
17.50	0570.4	0652.7	0653.0	0653.3	0653.6	0653.9	0654.2	0654.5	0654.8	0655.1
17.60	0570.4	0655.7	0656.0	0656.3	0656.6	0656.9	0657.2	0657.5	0657.8	0658.1
17.70	0570.4	0658.7	0659.0	0659.3	0659.6	0659.9	0660.2	0660.5	0660.8	0661.1
17.80	0570.4	0661.7	0662.0	0662.3	0662.6	0662.9	0663.2	0663.5	0663.8	0664.1
17.90	0570.4	0664.7	0665.0	0665.3	0665.6	0665.9	0666.2	0666.5	0666.8	0667.1
18.00	0570.4	0667.7	0668.0	0668.3	0668.6	0668.9	0669.2	0669.5	0669.8	0670.1
18.10	0570.4	0670.7	0671.0	0671.3	0671.6	0671.9	0672.2	0672.5	0672.8	0673.1
18.20	0570.4	0673.7	0674.0	0674.3	0674.6	0674.9	0675.2	0675.5	0675.8	0676.1
18.30	0570.4	0676.7	0677.0	0677.2	0677.5	0677.8	0678.1	0678.4	0678.7	0679.0
18.40	0570.3	0679.5	0679.9	0680.1	0680.5	0680.8	0681.1	0681.4	0681.7	0682.0
18.50	0582.3	0682.6	0682.9	0683.2	0683.5	0683.8	0684.1	0684.4	0684.7	0685.0
18.60	0585.3	0685.6	0685.9	0686.2	0686.5	0686.8	0687.1	0687.4	0687.6	0687.9
18.70	0588.2	0688.5	0688.8	0689.1	0689.4	0689.7	0689.9	0690.3	0690.6	0690.9
18.80	0591.2	0691.5	0691.8	0692.1	0692.4	0692.7	0692.9	0693.3	0693.6	0693.9
18.90	0594.2	0594.5	0594.8	0595.1	0595.3	0595.6	0595.9	0596.2	0596.5	0596.8
19.00	0597.1	0597.4	0597.7	0598.0	0598.3	0598.6	0598.9	0599.2	0599.5	0599.8
19.10	0700.1	0700.4	0700.7	0701.0	0701.3	0701.6	0701.9	0702.1	0702.4	0702.7
19.20	0703.0	0703.3	0703.6	0703.9	0704.2	0704.5	0704.8	0705.1	0705.4	0705.7
19.30	0706.0	0706.3	0706.6	0706.9	0707.2	0707.5	0707.8	0708.1	0708.4	0708.6
19.40	0708.9	0709.2	0709.5	0709.8	0710.1	0710.4	0710.7	0711.0	0711.3	0711.6
19.50	0711.9	0712.2	0712.5	0712.8	0713.0	0713.3	0713.6	0713.9	0714.2	0714.5
19.60	0714.8	0715.1	0715.4	0715.7	0716.0	0716.3	0716.6	0716.9	0717.2	0717.5
19.70	0717.8	0718.0	0718.3	0718.6	0718.9	0719.2	0719.5	0719.8	0720.1	0720.4
19.80	0720.7	0721.0	0721.3	0721.6	0721.9	0722.2	0722.5	0722.7	0723.0	0723.3
19.90	0722.6	0722.9	0723.2	0723.5	0723.8	0724.1	0724.4	0724.7	0725.0	0725.3

Temperature, °C



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