Designation: E 1751 – 00

Standard Guide for Temperature Electromotive Force (emf) Tables for Non-Letter Designated Thermocouple Combinations[1]

This standard is issued under the fixed designation E 1751; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide consists of reference tables that give temperature-electromotive force (emf) relationships for special purpose, limited use, thermocouple combinations that do not have a letter designation.

1.2 Extension wire or compensating extension wires are not covered by this guide. ASTM MNL 12[2] or thermocouple alloy suppliers should be consulted.

2. Terminology

2.1 *Definitions:*

2.1.1 For definitions of terms used in this guide see Terminology E 344.

2.2 *Definitions of Terms Specific to This Standard:*

2.2.1 *matched pairs, n*—a set of positive and negative thermoelements chosen so that a thermocouple fabricated from these thermoelements will match a specified temperature-elctromotive force relationship to within a specified tolerance, at the time of first use.

3. Source of Data

3.1 The data in these tables are based on the SI Volt and the International Temperature Scale of 1990.

3.2 All temperature–electromotive force data in Tables 1-18 have been developed from NIST, NRC, and wire manufacturers' data.

3.3 Tables 1-14 give emf values in millivolts to three decimal places (1 μV) at 1 °C or 1 °F intervals. Tables 15-18 give emf values in microvolts to one decimal place (0.1 μV) at 1 °C or 1 °F intervals. If greater precision is required, refer to the equation and coefficients listed for each thermocouple alloy.

4. Significance and Use

4.1 These thermocouple combinations have been developed for specific applications by the wire manufacturer(s). If additional information is required, consult ASTM MNL 12 or one of the following thermocouple manufacturers: Carpenter Technology, Engelhard Corp. Specialty Metals Div., Hoskins Mfg. Co., Johnson Matthey, Sigmund Cohn Corp.

5. Thermocouple Types

5.1 Letter symbols have not been assigned. Identification is made by alloy composition with the thermoelectrically positive material listed first.

5.1.1 Tungsten versus tungsten−26 % rhenium.

5.1.2 Platinel II.[3]

5.1.3 KP versus gold−0.07 % iron.[4]

5.1.4 Platinum−5 % molybdenum versus platinum−0.1 % molybdenum.

5.1.5 Platinum−40 % rhodium versus platinum−20 % rhodium.

5.1.6 Nickel−18 % molybdenum versus nickel−0.8 % cobalt.[5]

5.1.7 Iridium−40 % rhodium versus iridium.

5.1.8 Gold versus platinum.

5.1.9 Platinum versus palladium.

6. Tolerances on Initial Values of emf versus Temperature

6.1 Tolerances on initial values of emf versus temperature have not been established for the thermocouples in this guide. When required, tolerances on initial values of emf versus temperature should be established by agreement between the consumer and the producer. These thermocouple combinations are supplied typically as matched pairs.

7. Table Information

7.1 The following is a list of emf versus temperature tables included in this guide.

Table Number	Thermocouple Type	Temperature Range
Table 1	Tungsten versus Tungsten−26 % Rhenium	0 °C to 2315 °C
Table 2	Tungsten versus Tungsten−26 % Rhenium	32 °F to 4200 °F
Table 3	Platinel II	0 °C to 1395 °C
Table 4	Platinel II	32 °F to 2543 °F
Table 5	KP versus Gold−0.07 % Iron	−273 °C to 7 °C

[1] This guide is under the jurisdiction of ASTM Committee E20 on Temperature Measurement and is the direct responsibility of Subcommittee E20.04 on Thermocouples.

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[2] *Manual on the Use of Thermocouples in Temperature Measurement, ASTM Manual 12,* ASTM, 1993.

[3] Trademark of Engelhard Corp., Specialty Metals Division.

[4] Alloy compositions are expressed in percentages by mass, except for the gold−0.07 % iron alloy, which is given in atomic percent.

[5] Nickel−18 % molybdenum versus nickel 0.8 % cobalt is supplied by Carpenter Technology as 20 alloy and 19 alloy.

Table 6	KP versus Gold−0.07 % Iron	−459 °F to 44 °F
Table 7	Platinum−5 % Molybdenum versus Platinum−0.1 % Molybdenum	0 °C to 1600 °C
Table 8	Platinum−5 % Molybdenum versus Platinum−0.1 % Molybdenum	32 °F to 2912 °F
Table 9	Platinum−40 % Rhodium versus Platinum−20 % Rhodium	0 °C to 1888 °C
Table 10	Platinum−40 % Rhodium versus Platinum−20 % Rhodium	32 °F to 3430 °F
Table 11	Nickel−18 % Molybdenum versus Nickel−0.8 % Cobalt	−50 °C to 1410 °C
Table 12	Nickel−18 % Molybdenum versus Nickel−0.8 % Cobalt	−58 °F to 2570 °F
Table 13	Iridium 40 % Rhodium versus Iridium	0 °C to 2110 °C
Table 14	Iridium 40 % Rhodium versus Iridium	32 °F to 3830 °F
Table 15	Gold versus Platinum	0 °C to 1000 °C
Table 16	Gold versus Platinum	32 °F to 1832 °F
Table 17	Platinum versus Palladium	0 °C to 1500 °C
Table 18	Platinum versus Palladium	32 °F to 2732 °F
Table 19	Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of Thermocouple emf	

7.2 Tables 1-18 were derived from equations of the form:

$$E = c_0 + c_1 T + c_2 T^2 + \ldots c_n T^n \quad (1)$$

where:

E = the emf in millivolts (except for Tables 15-18 where E is in microvolts), and

T = the temperature in °C or °F. The coefficients used to calculate each table are given at the end of the table.

7.3 Table 19 gives coefficients of inverse equations that may be used to compute approximate values of temperature (T) in either °C or °F for each thermocouple combination. The inverse equations are of the form:

$$T = b_0 + b_1 E + b_2 E^2 + \ldots b_n E^n \quad (2)$$

except for the gold versus platinum thermocouple in the ranges 209 °C to 1000 °C (408.2 °F to 1832 °F), where the inverse equation is of the form:

$$T = b_0 + \sum_{i=1}^{11} b_i \left(\frac{E - 9645}{7620} \right)^i \quad (3)$$

For these equations, the thermocouple emf (E) is in units of millivolts, except for gold versus platinum and platinum versus palladium thermocouples, for which the emf is in units of microvolts.

7.3.1 Table 19 also gives the temperature range, emf range, and error range of each inverse equation.

TABLE 1 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
0	0.000	0.001	0.003	0.004	0.005	0.007	0.008	0.010	0.012	0.013	0.015	0
10	0.015	0.017	0.018	0.020	0.022	0.024	0.026	0.028	0.030	0.032	0.034	10
20	0.034	0.036	0.038	0.041	0.043	0.045	0.048	0.050	0.053	0.055	0.058	20
30	0.058	0.060	0.063	0.065	0.068	0.071	0.074	0.076	0.079	0.082	0.085	30
40	0.085	0.088	0.091	0.094	0.097	0.100	0.104	0.107	0.110	0.113	0.117	40
50	0.117	0.120	0.123	0.127	0.130	0.134	0.138	0.141	0.145	0.148	0.152	50
60	0.152	0.156	0.160	0.164	0.168	0.172	0.175	0.179	0.184	0.188	0.192	60
70	0.192	0.196	0.200	0.204	0.209	0.213	0.217	0.222	0.226	0.231	0.235	70
80	0.235	0.240	0.244	0.249	0.254	0.258	0.263	0.268	0.273	0.277	0.282	80
90	0.282	0.287	0.292	0.297	0.302	0.307	0.312	0.318	0.323	0.328	0.333	90
100	0.333	0.339	0.344	0.349	0.355	0.360	0.366	0.371	0.377	0.382	0.388	100
110	0.388	0.394	0.399	0.405	0.411	0.417	0.422	0.428	0.434	0.440	0.446	110
120	0.446	0.452	0.458	0.464	0.471	0.477	0.483	0.489	0.495	0.502	0.508	120
130	0.508	0.514	0.521	0.527	0.534	0.540	0.547	0.553	0.560	0.567	0.573	130
140	0.573	0.580	0.587	0.594	0.601	0.607	0.614	0.621	0.628	0.635	0.642	140
150	0.642	0.649	0.656	0.664	0.671	0.678	0.685	0.693	0.700	0.707	0.715	150
160	0.715	0.722	0.729	0.737	0.744	0.752	0.760	0.767	0.775	0.782	0.790	160
170	0.790	0.798	0.806	0.813	0.821	0.829	0.837	0.845	0.853	0.861	0.869	170
180	0.869	0.877	0.885	0.893	0.902	0.910	0.918	0.926	0.935	0.943	0.951	180
190	0.951	0.960	0.968	0.976	0.985	0.993	1.002	1.011	1.019	1.028	1.037	190
200	1.037	1.045	1.054	1.063	1.072	1.080	1.089	1.098	1.107	1.116	1.125	200
210	1.125	1.134	1.143	1.152	1.161	1.170	1.180	1.189	1.198	1.207	1.217	210
220	1.217	1.226	1.235	1.245	1.254	1.264	1.273	1.283	1.292	1.302	1.311	220
230	1.311	1.321	1.331	1.340	1.350	1.360	1.369	1.379	1.389	1.399	1.409	230
240	1.409	1.419	1.429	1.439	1.449	1.459	1.469	1.479	1.489	1.499	1.509	240
250	1.509	1.520	1.530	1.540	1.550	1.561	1.571	1.582	1.592	1.602	1.613	250
260	1.613	1.623	1.634	1.644	1.655	1.666	1.676	1.687	1.698	1.708	1.719	260
270	1.719	1.730	1.741	1.752	1.762	1.773	1.784	1.795	1.806	1.817	1.828	270
280	1.828	1.839	1.850	1.862	1.873	1.884	1.895	1.906	1.918	1.929	1.940	280
290	1.940	1.951	1.963	1.974	1.986	1.997	2.009	2.020	2.032	2.043	2.055	290
300	2.055	2.066	2.078	2.090	2.101	2.113	2.125	2.136	2.148	2.160	2.172	300
310	2.172	2.184	2.196	2.208	2.219	2.231	2.243	2.255	2.267	2.280	2.292	310
320	2.292	2.304	2.316	2.328	2.340	2.353	2.365	2.377	2.389	2.402	2.414	320
330	2.414	2.426	2.439	2.451	2.464	2.476	2.489	2.501	2.514	2.526	2.539	330
340	2.539	2.552	2.564	2.577	2.590	2.602	2.615	2.628	2.641	2.653	2.666	340
350	2.666	2.679	2.692	2.705	2.718	2.731	2.744	2.757	2.770	2.783	2.796	350
360	2.796	2.809	2.822	2.836	2.849	2.862	2.875	2.888	2.902	2.915	2.928	360
370	2.928	2.942	2.955	2.968	2.982	2.995	3.009	3.022	3.036	3.049	3.063	370
380	3.063	3.076	3.090	3.104	3.117	3.131	3.145	3.158	3.172	3.186	3.200	380
390	3.200	3.214	3.227	3.241	3.255	3.269	3.283	3.297	3.311	3.325	3.339	390
400	3.339	3.353	3.367	3.381	3.395	3.409	3.423	3.438	3.452	3.466	3.480	400
410	3.480	3.494	3.509	3.523	3.537	3.552	3.566	3.580	3.595	3.609	3.624	410
420	3.624	3.638	3.653	3.667	3.682	3.696	3.711	3.725	3.740	3.755	3.769	420
430	3.769	3.784	3.799	3.813	3.828	3.843	3.858	3.872	3.887	3.902	3.917	430
440	3.917	3.932	3.947	3.962	3.977	3.992	4.007	4.022	4.037	4.052	4.067	440
450	4.067	4.082	4.097	4.112	4.127	4.142	4.158	4.173	4.188	4.203	4.219	450
460	4.219	4.234	4.249	4.264	4.280	4.295	4.311	4.326	4.341	4.357	4.372	460
470	4.372	4.388	4.403	4.419	4.434	4.450	4.465	4.481	4.497	4.512	4.528	470
480	4.528	4.544	4.559	4.575	4.591	4.606	4.622	4.638	4.654	4.670	4.685	480
490	4.685	4.701	4.717	4.733	4.749	4.765	4.781	4.797	4.813	4.829	4.845	490
500	4.845	4.861	4.877	4.893	4.909	4.925	4.941	4.957	4.974	4.990	5.006	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 1 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	4.845	4.861	4.877	4.893	4.909	4.925	4.941	4.957	4.974	4.990	5.006	500
510	5.006	5.022	5.038	5.055	5.071	5.087	5.104	5.120	5.136	5.153	5.169	510
520	5.169	5.185	5.202	5.218	5.235	5.251	5.267	5.284	5.300	5.317	5.334	520
530	5.334	5.350	5.367	5.383	5.400	5.416	5.433	5.450	5.466	5.483	5.500	530
540	5.500	5.517	5.533	5.550	5.567	5.584	5.600	5.617	5.634	5.651	5.668	540
550	5.668	5.685	5.702	5.718	5.735	5.752	5.769	5.786	5.803	5.820	5.837	550
560	5.837	5.854	5.871	5.888	5.906	5.923	5.940	5.957	5.974	5.991	6.008	560
570	6.008	6.026	6.043	6.060	6.077	6.095	6.112	6.129	6.146	6.164	6.181	570
580	6.181	6.198	6.216	6.233	6.250	6.268	6.285	6.303	6.320	6.338	6.355	580
590	6.355	6.373	6.390	6.408	6.425	6.443	6.460	6.478	6.495	6.513	6.531	590
600	6.531	6.548	6.566	6.583	6.601	6.619	6.636	6.654	6.672	6.690	6.707	600
610	6.707	6.725	6.743	6.761	6.778	6.796	6.814	6.832	6.850	6.868	6.886	610
620	6.886	6.903	6.921	6.939	6.957	6.975	6.993	7.011	7.029	7.047	7.065	620
630	7.065	7.083	7.101	7.119	7.137	7.155	7.173	7.191	7.210	7.228	7.246	630
640	7.246	7.264	7.282	7.300	7.319	7.337	7.355	7.373	7.391	7.410	7.428	640
650	7.428	7.446	7.465	7.483	7.501	7.519	7.538	7.556	7.575	7.593	7.611	650
660	7.611	7.630	7.648	7.667	7.685	7.703	7.722	7.740	7.759	7.777	7.796	660
670	7.796	7.814	7.833	7.852	7.870	7.889	7.907	7.926	7.944	7.963	7.982	670
680	7.982	8.000	8.019	8.038	8.056	8.075	8.094	8.113	8.131	8.150	8.169	680
690	8.169	8.187	8.206	8.225	8.244	8.263	8.281	8.300	8.319	8.338	8.357	690
700	8.357	8.376	8.395	8.414	8.432	8.451	8.470	8.489	8.508	8.527	8.546	700
710	8.546	8.565	8.584	8.603	8.622	8.641	8.660	8.679	8.698	8.717	8.737	710
720	8.737	8.756	8.775	8.794	8.813	8.832	8.851	8.870	8.890	8.909	8.928	720
730	8.928	8.947	8.966	8.986	9.005	9.024	9.043	9.063	9.082	9.101	9.120	730
740	9.120	9.140	9.159	9.178	9.198	9.217	9.236	9.256	9.275	9.295	9.314	740
750	9.314	9.333	9.353	9.372	9.392	9.411	9.430	9.450	9.469	9.489	9.508	750
760	9.508	9.528	9.547	9.567	9.586	9.606	9.625	9.645	9.665	9.684	9.704	760
770	9.704	9.723	9.743	9.763	9.782	9.802	9.821	9.841	9.861	9.880	9.900	770
780	9.900	9.920	9.939	9.959	9.979	9.998	10.018	10.038	10.058	10.077	10.097	780
790	10.097	10.117	10.137	10.156	10.176	10.196	10.216	10.236	10.256	10.275	10.295	790
800	10.295	10.315	10.335	10.355	10.375	10.395	10.414	10.434	10.454	10.474	10.494	800
810	10.494	10.514	10.534	10.554	10.574	10.594	10.614	10.634	10.654	10.674	10.694	810
820	10.694	10.714	10.734	10.754	10.774	10.794	10.814	10.834	10.854	10.874	10.894	820
830	10.894	10.914	10.934	10.954	10.974	10.995	11.015	11.035	11.055	11.075	11.095	830
840	11.095	11.115	11.136	11.156	11.176	11.196	11.216	11.236	11.257	11.277	11.297	840
850	11.297	11.317	11.338	11.358	11.378	11.398	11.419	11.439	11.459	11.479	11.500	850
860	11.500	11.520	11.540	11.561	11.581	11.601	11.622	11.642	11.662	11.683	11.703	860
870	11.703	11.723	11.744	11.764	11.784	11.805	11.825	11.845	11.866	11.886	11.907	870
880	11.907	11.927	11.948	11.968	11.988	12.009	12.029	12.050	12.070	12.091	12.111	880
890	12.111	12.132	12.152	12.173	12.193	12.214	12.234	12.255	12.275	12.296	12.316	890
900	12.316	12.337	12.357	12.378	12.398	12.419	12.439	12.460	12.481	12.501	12.522	900
910	12.522	12.542	12.563	12.583	12.604	12.625	12.645	12.666	12.686	12.707	12.728	910
920	12.728	12.748	12.769	12.790	12.810	12.831	12.852	12.872	12.893	12.914	12.934	920
930	12.934	12.955	12.976	12.996	13.017	13.038	13.058	13.079	13.100	13.121	13.141	930
940	13.141	13.162	13.183	13.204	13.224	13.245	13.266	13.287	13.307	13.328	13.349	940
950	13.349	13.370	13.390	13.411	13.432	13.453	13.474	13.494	13.515	13.536	13.557	950
960	13.557	13.578	13.598	13.619	13.640	13.661	13.682	13.702	13.723	13.744	13.765	960
970	13.765	13.786	13.807	13.828	13.848	13.869	13.890	13.911	13.932	13.953	13.974	970
980	13.974	13.995	14.015	14.036	14.057	14.078	14.099	14.120	14.141	14.162	14.183	980
990	14.183	14.204	14.225	14.245	14.266	14.287	14.308	14.329	14.350	14.371	14.392	990
1000	14.392	14.413	14.434	14.455	14.476	14.497	14.518	14.539	14.560	14.581	14.602	1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 1 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Thermoelectric Voltage in Millivolts											
1000	14.392	14.413	14.434	14.455	14.476	14.497	14.518	14.539	14.560	14.581	14.602	1000
1010	14.602	14.623	14.644	14.665	14.686	14.707	14.728	14.749	14.770	14.791	14.812	1010
1020	14.812	14.833	14.854	14.875	14.896	14.917	14.938	14.959	14.980	15.001	15.022	1020
1030	15.022	15.043	15.064	15.085	15.106	15.127	15.148	15.169	15.190	15.211	15.232	1030
1040	15.232	15.253	15.274	15.295	15.316	15.337	15.359	15.380	15.401	15.422	15.443	1040
1050	15.443	15.464	15.485	15.506	15.527	15.548	15.569	15.590	15.611	15.633	15.654	1050
1060	15.654	15.675	15.696	15.717	15.738	15.759	15.780	15.801	15.822	15.844	15.865	1060
1070	15.865	15.886	15.907	15.928	15.949	15.970	15.991	16.012	16.034	16.055	16.076	1070
1080	16.076	16.097	16.118	16.139	16.160	16.181	16.202	16.224	16.245	16.266	16.287	1080
1090	16.287	16.308	16.329	16.350	16.372	16.393	16.414	16.435	16.456	16.477	16.498	1090
1100	16.498	16.520	16.541	16.562	16.583	16.604	16.625	16.646	16.668	16.689	16.710	1100
1110	16.710	16.731	16.752	16.773	16.794	16.816	16.837	16.858	16.879	16.900	16.921	1110
1120	16.921	16.943	16.964	16.985	17.006	17.027	17.048	17.069	17.091	17.112	17.133	1120
1130	17.133	17.154	17.175	17.196	17.218	17.239	17.260	17.281	17.302	17.323	17.345	1130
1140	17.345	17.366	17.387	17.408	17.429	17.450	17.471	17.493	17.514	17.535	17.556	1140
1150	17.556	17.577	17.598	17.620	17.641	17.662	17.683	17.704	17.725	17.747	17.768	1150
1160	17.768	17.789	17.810	17.831	17.852	17.874	17.895	17.916	17.937	17.958	17.979	1160
1170	17.979	18.000	18.022	18.043	18.064	18.085	18.106	18.127	18.149	18.170	18.191	1170
1180	18.191	18.212	18.233	18.254	18.275	18.297	18.318	18.339	18.360	18.381	18.402	1180
1190	18.402	18.423	18.445	18.466	18.487	18.508	18.529	18.550	18.571	18.593	18.614	1190
1200	18.614	18.635	18.656	18.677	18.698	18.719	18.741	18.762	18.783	18.804	18.825	1200
1210	18.825	18.846	18.867	18.888	18.910	18.931	18.952	18.973	18.994	19.015	19.036	1210
1220	19.036	19.057	19.078	19.100	19.121	19.142	19.163	19.184	19.205	19.226	19.247	1220
1230	19.247	19.268	19.289	19.311	19.332	19.353	19.374	19.395	19.416	19.437	19.458	1230
1240	19.458	19.479	19.500	19.521	19.543	19.564	19.585	19.606	19.627	19.648	19.669	1240
1250	19.669	19.690	19.711	19.732	19.753	19.774	19.795	19.816	19.837	19.858	19.880	1250
1260	19.880	19.901	19.922	19.943	19.964	19.985	20.006	20.027	20.048	20.069	20.090	1260
1270	20.090	20.111	20.132	20.153	20.174	20.195	20.216	20.237	20.258	20.279	20.300	1270
1280	20.300	20.321	20.342	20.363	20.384	20.405	20.426	20.447	20.468	20.489	20.510	1280
1290	20.510	20.531	20.552	20.573	20.594	20.615	20.636	20.657	20.678	20.699	20.720	1290
1300	20.720	20.741	20.762	20.783	20.804	20.824	20.845	20.866	20.887	20.908	20.929	1300
1310	20.929	20.950	20.971	20.992	21.013	21.034	21.055	21.076	21.097	21.117	21.138	1310
1320	21.138	21.159	21.180	21.201	21.222	21.243	21.264	21.285	21.305	21.326	21.347	1320
1330	21.347	21.368	21.389	21.410	21.431	21.452	21.472	21.493	21.514	21.535	21.556	1330
1340	21.556	21.577	21.597	21.618	21.639	21.660	21.681	21.702	21.722	21.743	21.764	1340
1350	21.764	21.785	21.806	21.826	21.847	21.868	21.889	21.910	21.930	21.951	21.972	1350
1360	21.972	21.993	22.014	22.034	22.055	22.076	22.097	22.117	22.138	22.159	22.180	1360
1370	22.180	22.200	22.221	22.242	22.263	22.283	22.304	22.325	22.345	22.366	22.387	1370
1380	22.387	22.408	22.428	22.449	22.470	22.490	22.511	22.532	22.552	22.573	22.594	1380
1390	22.594	22.614	22.635	22.656	22.676	22.697	22.718	22.738	22.759	22.780	22.800	1390
1400	22.800	22.821	22.841	22.862	22.883	22.903	22.924	22.945	22.965	22.986	23.006	1400
1410	23.006	23.027	23.047	23.068	23.089	23.109	23.130	23.150	23.171	23.191	23.212	1410
1420	23.212	23.233	23.253	23.274	23.294	23.315	23.335	23.356	23.376	23.397	23.417	1420
1430	23.417	23.438	23.458	23.479	23.499	23.520	23.540	23.561	23.581	23.602	23.622	1430
1440	23.622	23.643	23.663	23.683	23.704	23.724	23.745	23.765	23.786	23.806	23.826	1440
1450	23.826	23.847	23.867	23.888	23.908	23.928	23.949	23.969	23.990	24.010	24.030	1450
1460	24.030	24.051	24.071	24.091	24.112	24.132	24.152	24.173	24.193	24.213	24.234	1460
1470	24.234	24.254	24.274	24.295	24.315	24.335	24.356	24.376	24.396	24.416	24.437	1470
1480	24.437	24.457	24.477	24.498	24.518	24.538	24.558	24.578	24.599	24.619	24.639	1480
1490	24.639	24.659	24.680	24.700	24.720	24.740	24.760	24.781	24.801	24.821	24.841	1490
1500	24.841	24.861	24.881	24.902	24.922	24.942	24.962	24.982	25.002	25.022	25.042	1500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 1 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1500	24.841	24.861	24.881	24.902	24.922	24.942	24.962	24.982	25.002	25.022	25.042	1500
1510	25.042	25.063	25.083	25.103	25.123	25.143	25.163	25.183	25.203	25.223	25.243	1510
1520	25.243	25.263	25.283	25.303	25.324	25.344	25.364	25.384	25.404	25.424	25.444	1520
1530	25.444	25.464	25.484	25.504	25.524	25.544	25.564	25.584	25.603	25.623	25.643	1530
1540	25.643	25.663	25.683	25.703	25.723	25.743	25.763	25.783	25.803	25.823	25.843	1540
1550	25.843	25.862	25.882	25.902	25.922	25.942	25.962	25.982	26.001	26.021	26.041	1550
1560	26.041	26.061	26.081	26.101	26.120	26.140	26.160	26.180	26.200	26.219	26.239	1560
1570	26.239	26.259	26.279	26.298	26.318	26.338	26.358	26.377	26.397	26.417	26.437	1570
1580	26.437	26.456	26.476	26.496	26.515	26.535	26.555	26.574	26.594	26.614	26.633	1580
1590	26.633	26.653	26.673	26.692	26.712	26.731	26.751	26.771	26.790	26.810	26.829	1590
1600	26.829	26.849	26.869	26.888	26.908	26.927	26.947	26.966	26.986	27.005	27.025	1600
1610	27.025	27.044	27.064	27.083	27.103	27.122	27.142	27.161	27.181	27.200	27.220	1610
1620	27.220	27.239	27.259	27.278	27.297	27.317	27.336	27.356	27.375	27.394	27.414	1620
1630	27.414	27.433	27.453	27.472	27.491	27.511	27.530	27.549	27.569	27.588	27.607	1630
1640	27.607	27.627	27.646	27.665	27.685	27.704	27.723	27.742	27.762	27.781	27.800	1640
1650	27.800	27.819	27.839	27.858	27.877	27.896	27.915	27.935	27.954	27.973	27.992	1650
1660	27.992	28.011	28.031	28.050	28.069	28.088	28.107	28.126	28.145	28.164	28.184	1660
1670	28.184	28.203	28.222	28.241	28.260	28.279	28.298	28.317	28.336	28.355	28.374	1670
1680	28.374	28.393	28.412	28.431	28.450	28.469	28.488	28.507	28.526	28.545	28.564	1680
1690	28.564	28.583	28.602	28.621	28.640	28.659	28.678	28.697	28.716	28.734	28.753	1690
1700	28.753	28.772	28.791	28.810	28.829	28.848	28.866	28.885	28.904	28.923	28.942	1700
1710	28.942	28.961	28.979	28.998	29.017	29.036	29.054	29.073	29.092	29.111	29.129	1710
1720	29.129	29.148	29.167	29.186	29.204	29.223	29.242	29.260	29.279	29.298	29.316	1720
1730	29.316	29.335	29.354	29.372	29.391	29.409	29.428	29.447	29.465	29.484	29.502	1730
1740	29.502	29.521	29.539	29.558	29.577	29.595	29.614	29.632	29.651	29.669	29.688	1740
1750	29.688	29.706	29.725	29.743	29.762	29.780	29.798	29.817	29.835	29.854	29.872	1750
1760	29.872	29.891	29.909	29.927	29.946	29.964	29.982	30.001	30.019	30.038	30.056	1760
1770	30.056	30.074	30.092	30.111	30.129	30.147	30.166	30.184	30.202	30.220	30.239	1770
1780	30.239	30.257	30.275	30.293	30.312	30.330	30.348	30.366	30.384	30.403	30.421	1780
1790	30.421	30.439	30.457	30.475	30.493	30.511	30.530	30.548	30.566	30.584	30.602	1790
1800	30.602	30.620	30.638	30.656	30.674	30.692	30.710	30.728	30.746	30.764	30.782	1800
1810	30.782	30.800	30.818	30.836	30.854	30.872	30.890	30.908	30.926	30.944	30.962	1810
1820	30.962	30.980	30.997	31.015	31.033	31.051	31.069	31.087	31.105	31.122	31.140	1820
1830	31.140	31.158	31.176	31.194	31.211	31.229	31.247	31.265	31.282	31.300	31.318	1830
1840	31.318	31.336	31.353	31.371	31.389	31.406	31.424	31.442	31.459	31.477	31.495	1840
1850	31.495	31.512	31.530	31.548	31.565	31.583	31.600	31.618	31.636	31.653	31.671	1850
1860	31.671	31.688	31.706	31.723	31.741	31.758	31.776	31.793	31.811	31.828	31.846	1860
1870	31.846	31.863	31.881	31.898	31.915	31.933	31.950	31.968	31.985	32.002	32.020	1870
1880	32.020	32.037	32.054	32.072	32.089	32.106	32.124	32.141	32.158	32.176	32.193	1880
1890	32.193	32.210	32.227	32.245	32.262	32.279	32.296	32.313	32.331	32.348	32.365	1890
1900	32.365	32.382	32.399	32.417	32.434	32.451	32.468	32.485	32.502	32.519	32.536	1900
1910	32.536	32.553	32.570	32.587	32.605	32.622	32.639	32.656	32.673	32.690	32.707	1910
1920	32.707	32.724	32.741	32.758	32.774	32.791	32.808	32.825	32.842	32.859	32.876	1920
1930	32.876	32.893	32.910	32.927	32.943	32.960	32.977	32.994	33.011	33.027	33.044	1930
1940	33.044	33.061	33.078	33.095	33.111	33.128	33.145	33.162	33.178	33.195	33.212	1940
1950	33.212	33.228	33.245	33.262	33.278	33.295	33.312	33.328	33.345	33.361	33.378	1950
1960	33.378	33.395	33.411	33.428	33.444	33.461	33.477	33.494	33.510	33.527	33.543	1960
1970	33.543	33.560	33.576	33.593	33.609	33.626	33.642	33.659	33.675	33.691	33.708	1970
1980	33.708	33.724	33.741	33.757	33.773	33.790	33.806	33.822	33.839	33.855	33.871	1980
1990	33.871	33.887	33.904	33.920	33.936	33.952	33.969	33.985	34.001	34.017	34.033	1990
2000	34.033	34.050	34.066	34.082	34.098	34.114	34.130	34.146	34.163	34.179	34.195	2000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 1 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
2000	34.033	34.050	34.066	34.082	34.098	34.114	34.130	34.146	34.163	34.179	34.195	**2000**
2010	34.195	34.211	34.227	34.243	34.259	34.275	34.291	34.307	34.323	34.339	34.355	**2010**
2020	34.355	34.371	34.387	34.403	34.419	34.435	34.451	34.467	34.482	34.498	34.514	**2020**
2030	34.514	34.530	34.546	34.562	34.578	34.593	34.609	34.625	34.641	34.657	34.672	**2030**
2040	34.672	34.688	34.704	34.720	34.735	34.751	34.767	34.782	34.798	34.814	34.829	**2040**
2050	34.829	34.845	34.861	34.876	34.892	34.908	34.923	34.939	34.954	34.970	34.985	**2050**
2060	34.985	35.001	35.016	35.032	35.047	35.063	35.078	35.094	35.109	35.125	35.140	**2060**
2070	35.140	35.156	35.171	35.187	35.202	35.217	35.233	35.248	35.263	35.279	35.294	**2070**
2080	35.294	35.309	35.325	35.340	35.355	35.371	35.386	35.401	35.416	35.432	35.447	**2080**
2090	35.447	35.462	35.477	35.492	35.508	35.523	35.538	35.553	35.568	35.583	35.598	**2090**
2100	35.598	35.613	35.629	35.644	35.659	35.674	35.689	35.704	35.719	35.734	35.749	**2100**
2110	35.749	35.764	35.779	35.794	35.809	35.824	35.839	35.853	35.868	35.883	35.898	**2110**
2120	35.898	35.913	35.928	35.943	35.958	35.972	35.987	36.002	36.017	36.032	36.046	**2120**
2130	36.046	36.061	36.076	36.091	36.105	36.120	36.135	36.149	36.164	36.179	36.193	**2130**
2140	36.193	36.208	36.223	36.237	36.252	36.266	36.281	36.296	36.310	36.325	36.339	**2140**
2150	36.339	36.354	36.368	36.383	36.397	36.412	36.426	36.441	36.455	36.469	36.484	**2150**
2160	36.484	36.498	36.513	36.527	36.541	36.556	36.570	36.584	36.599	36.613	36.627	**2160**
2170	36.627	36.642	36.656	36.670	36.684	36.699	36.713	36.727	36.741	36.756	36.770	**2170**
2180	36.770	36.784	36.798	36.812	36.826	36.840	36.855	36.869	36.883	36.897	36.911	**2180**
2190	36.911	36.925	36.939	36.953	36.967	36.981	36.995	37.009	37.023	37.037	37.051	**2190**
2200	37.051	37.065	37.079	37.092	37.106	37.120	37.134	37.148	37.162	37.176	37.189	**2200**
2210	37.189	37.203	37.217	37.231	37.245	37.258	37.272	37.286	37.299	37.313	37.327	**2210**
2220	37.327	37.341	37.354	37.368	37.381	37.395	37.409	37.422	37.436	37.449	37.463	**2220**
2230	37.463	37.477	37.490	37.504	37.517	37.531	37.544	37.558	37.571	37.585	37.598	**2230**
2240	37.598	37.611	37.625	37.638	37.652	37.665	37.678	37.692	37.705	37.718	37.732	**2240**
2250	37.732	37.745	37.758	37.771	37.785	37.798	37.811	37.824	37.838	37.851	37.864	**2250**
2260	37.864	37.877	37.890	37.903	37.917	37.930	37.943	37.956	37.969	37.982	37.995	**2260**
2270	37.995	38.008	38.021	38.034	38.047	38.060	38.073	38.086	38.099	38.112	38.125	**2270**
2280	38.125	38.138	38.151	38.163	38.176	38.189	38.202	38.215	38.228	38.240	38.253	**2280**
2290	38.253	38.266	38.279	38.291	38.304	38.317	38.329	38.342	38.355	38.367	38.380	**2290**
2300	38.380	38.393	38.405	38.418	38.431	38.443	38.456	38.468	38.481	38.493	38.506	**2300**
2310	38.506	38.518	38.531	38.543	38.556	38.568						**2310**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Tungsten versus Tungsten - 26% Rhenium thermocouples.

0 °C to 630.615 °C

$$c_0 = 0.000\,000\,0$$
$$c_1 = 1.279\,220\,1 \times 10^{-03}$$
$$c_2 = 2.163\,475\,4 \times 10^{-05}$$
$$c_3 = -1.139\,323\,4 \times 10^{-08}$$
$$c_4 = 4.385\,002\,2 \times 10^{-12}$$
$$c_5 = -1.708\,920\,2 \times 10^{-15}$$

630.615 °C to 2315 °C

$$c_0 = -1.106\,441\,2$$
$$c_1 = 9.496\,245\,5 \times 10^{-03}$$
$$c_2 = -3.646\,751\,6 \times 10^{-06}$$
$$c_3 = 3.114\,133\,0 \times 10^{-08}$$
$$c_4 = -3.861\,522\,2 \times 10^{-11}$$
$$c_5 = 2.445\,501\,2 \times 10^{-14}$$
$$c_6 = -8.988\,805\,3 \times 10^{-18}$$
$$c_7 = 1.812\,023\,7 \times 10^{-21}$$
$$c_8 = -1.553\,459\,1 \times 10^{-25}$$

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
30			0.000	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.006	30
40	0.006	0.007	0.008	0.009	0.009	0.010	0.011	0.012	0.013	0.014	0.015	40
50	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025	50
60	0.025	0.026	0.027	0.028	0.030	0.031	0.032	0.033	0.034	0.035	0.037	60
70	0.037	0.038	0.039	0.040	0.041	0.043	0.044	0.045	0.047	0.048	0.049	70
80	0.049	0.051	0.052	0.053	0.055	0.056	0.058	0.059	0.060	0.062	0.063	80
90	0.063	0.065	0.066	0.068	0.069	0.071	0.072	0.074	0.075	0.077	0.079	90
100	0.079	0.080	0.082	0.083	0.085	0.087	0.088	0.090	0.092	0.093	0.095	100
110	0.095	0.097	0.099	0.100	0.102	0.104	0.106	0.107	0.109	0.111	0.113	110
120	0.113	0.115	0.117	0.119	0.120	0.122	0.124	0.126	0.128	0.130	0.132	120
130	0.132	0.134	0.136	0.138	0.140	0.142	0.144	0.146	0.148	0.150	0.152	130
140	0.152	0.154	0.156	0.159	0.161	0.163	0.165	0.167	0.169	0.172	0.174	140
150	0.174	0.176	0.178	0.180	0.183	0.185	0.187	0.189	0.192	0.194	0.196	150
160	0.196	0.199	0.201	0.203	0.206	0.208	0.211	0.213	0.215	0.218	0.220	160
170	0.220	0.223	0.225	0.228	0.230	0.233	0.235	0.238	0.240	0.243	0.245	170
180	0.245	0.248	0.250	0.253	0.256	0.258	0.261	0.264	0.266	0.269	0.272	180
190	0.272	0.274	0.277	0.280	0.282	0.285	0.288	0.291	0.293	0.296	0.299	190
200	0.299	0.302	0.305	0.307	0.310	0.313	0.316	0.319	0.322	0.325	0.327	200
210	0.327	0.330	0.333	0.336	0.339	0.342	0.345	0.348	0.351	0.354	0.357	210
220	0.357	0.360	0.363	0.366	0.369	0.372	0.375	0.379	0.382	0.385	0.388	220
230	0.388	0.391	0.394	0.397	0.401	0.404	0.407	0.410	0.413	0.417	0.420	230
240	0.420	0.423	0.426	0.430	0.433	0.436	0.440	0.443	0.446	0.450	0.453	240
250	0.453	0.456	0.460	0.463	0.466	0.470	0.473	0.477	0.480	0.484	0.487	250
260	0.487	0.491	0.494	0.498	0.501	0.505	0.508	0.512	0.515	0.519	0.522	260
270	0.522	0.526	0.529	0.533	0.537	0.540	0.544	0.548	0.551	0.555	0.559	270
280	0.559	0.562	0.566	0.570	0.573	0.577	0.581	0.585	0.588	0.592	0.596	280
290	0.596	0.600	0.604	0.607	0.611	0.615	0.619	0.623	0.627	0.631	0.634	290
300	0.634	0.638	0.642	0.646	0.650	0.654	0.658	0.662	0.666	0.670	0.674	300
310	0.674	0.678	0.682	0.686	0.690	0.694	0.698	0.702	0.706	0.710	0.715	310
320	0.715	0.719	0.723	0.727	0.731	0.735	0.739	0.744	0.748	0.752	0.756	320
330	0.756	0.760	0.765	0.769	0.773	0.777	0.782	0.786	0.790	0.794	0.799	330
340	0.799	0.803	0.807	0.812	0.816	0.820	0.825	0.829	0.834	0.838	0.842	340
350	0.842	0.847	0.851	0.856	0.860	0.865	0.869	0.874	0.878	0.883	0.887	350
360	0.887	0.892	0.896	0.901	0.905	0.910	0.914	0.919	0.923	0.928	0.933	360
370	0.933	0.937	0.942	0.947	0.951	0.956	0.961	0.965	0.970	0.975	0.979	370
380	0.979	0.984	0.989	0.993	0.998	1.003	1.008	1.013	1.017	1.022	1.027	380
390	1.027	1.032	1.037	1.041	1.046	1.051	1.056	1.061	1.066	1.071	1.076	390
400	1.076	1.080	1.085	1.090	1.095	1.100	1.105	1.110	1.115	1.120	1.125	400
410	1.125	1.130	1.135	1.140	1.145	1.150	1.155	1.160	1.165	1.170	1.176	410
420	1.176	1.181	1.186	1.191	1.196	1.201	1.206	1.211	1.217	1.222	1.227	420
430	1.227	1.232	1.237	1.243	1.248	1.253	1.258	1.264	1.269	1.274	1.279	430
440	1.279	1.285	1.290	1.295	1.301	1.306	1.311	1.317	1.322	1.327	1.333	440
450	1.333	1.338	1.343	1.349	1.354	1.360	1.365	1.371	1.376	1.381	1.387	450
460	1.387	1.392	1.398	1.403	1.409	1.414	1.420	1.425	1.431	1.437	1.442	460
470	1.442	1.448	1.453	1.459	1.464	1.470	1.476	1.481	1.487	1.492	1.498	470
480	1.498	1.504	1.509	1.515	1.521	1.526	1.532	1.538	1.544	1.549	1.555	480
490	1.555	1.561	1.567	1.572	1.578	1.584	1.590	1.595	1.601	1.607	1.613	490
500	1.613	1.619	1.625	1.630	1.636	1.642	1.648	1.654	1.660	1.666	1.672	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
500	1.613	1.619	1.625	1.630	1.636	1.642	1.648	1.654	1.660	1.666	1.672	500
510	1.672	1.677	1.683	1.689	1.695	1.701	1.707	1.713	1.719	1.725	1.731	510
520	1.731	1.737	1.743	1.749	1.755	1.761	1.767	1.773	1.779	1.785	1.792	520
530	1.792	1.798	1.804	1.810	1.816	1.822	1.828	1.834	1.841	1.847	1.853	530
540	1.853	1.859	1.865	1.871	1.878	1.884	1.890	1.896	1.903	1.909	1.915	540
550	1.915	1.921	1.928	1.934	1.940	1.946	1.953	1.959	1.965	1.972	1.978	550
560	1.978	1.984	1.991	1.997	2.003	2.010	2.016	2.023	2.029	2.035	2.042	560
570	2.042	2.048	2.055	2.061	2.068	2.074	2.080	2.087	2.093	2.100	2.106	570
580	2.106	2.113	2.119	2.126	2.132	2.139	2.146	2.152	2.159	2.165	2.172	580
590	2.172	2.178	2.185	2.192	2.198	2.205	2.211	2.218	2.225	2.231	2.238	590
600	2.238	2.245	2.251	2.258	2.265	2.272	2.278	2.285	2.292	2.298	2.305	600
610	2.305	2.312	2.319	2.325	2.332	2.339	2.346	2.353	2.359	2.366	2.373	610
620	2.373	2.380	2.387	2.393	2.400	2.407	2.414	2.421	2.428	2.435	2.442	620
630	2.442	2.448	2.455	2.462	2.469	2.476	2.483	2.490	2.497	2.504	2.511	630
640	2.511	2.518	2.525	2.532	2.539	2.546	2.553	2.560	2.567	2.574	2.581	640
650	2.581	2.588	2.595	2.602	2.609	2.616	2.624	2.631	2.638	2.645	2.652	650
660	2.652	2.659	2.666	2.673	2.681	2.688	2.695	2.702	2.709	2.717	2.724	660
670	2.724	2.731	2.738	2.745	2.753	2.760	2.767	2.774	2.782	2.789	2.796	670
680	2.796	2.803	2.811	2.818	2.825	2.833	2.840	2.847	2.855	2.862	2.869	680
690	2.869	2.877	2.884	2.891	2.899	2.906	2.914	2.921	2.928	2.936	2.943	690
700	2.943	2.951	2.958	2.965	2.973	2.980	2.988	2.995	3.003	3.010	3.018	700
710	3.018	3.025	3.033	3.040	3.048	3.055	3.063	3.070	3.078	3.086	3.093	710
720	3.093	3.101	3.108	3.116	3.123	3.131	3.139	3.146	3.154	3.161	3.169	720
730	3.169	3.177	3.184	3.192	3.200	3.207	3.215	3.223	3.230	3.238	3.246	730
740	3.246	3.254	3.261	3.269	3.277	3.284	3.292	3.300	3.308	3.315	3.323	740
750	3.323	3.331	3.339	3.347	3.354	3.362	3.370	3.378	3.386	3.394	3.401	750
760	3.401	3.409	3.417	3.425	3.433	3.441	3.449	3.456	3.464	3.472	3.480	760
770	3.480	3.488	3.496	3.504	3.512	3.520	3.528	3.536	3.544	3.552	3.560	770
780	3.560	3.568	3.576	3.584	3.592	3.600	3.608	3.616	3.624	3.632	3.640	780
790	3.640	3.648	3.656	3.664	3.672	3.680	3.688	3.696	3.704	3.712	3.721	790
800	3.721	3.729	3.737	3.745	3.753	3.761	3.769	3.777	3.786	3.794	3.802	800
810	3.802	3.810	3.818	3.826	3.835	3.843	3.851	3.859	3.868	3.876	3.884	810
820	3.884	3.892	3.900	3.909	3.917	3.925	3.934	3.942	3.950	3.958	3.967	820
830	3.967	3.975	3.983	3.992	4.000	4.008	4.017	4.025	4.033	4.042	4.050	830
840	4.050	4.058	4.067	4.075	4.084	4.092	4.100	4.109	4.117	4.126	4.134	840
850	4.134	4.142	4.151	4.159	4.168	4.176	4.185	4.193	4.202	4.210	4.219	850
860	4.219	4.227	4.236	4.244	4.253	4.261	4.270	4.278	4.287	4.295	4.304	860
870	4.304	4.312	4.321	4.329	4.338	4.346	4.355	4.364	4.372	4.381	4.389	870
880	4.389	4.398	4.407	4.415	4.424	4.433	4.441	4.450	4.458	4.467	4.476	880
890	4.476	4.484	4.493	4.502	4.511	4.519	4.528	4.537	4.545	4.554	4.563	890
900	4.563	4.571	4.580	4.589	4.598	4.606	4.615	4.624	4.633	4.641	4.650	900
910	4.650	4.659	4.668	4.677	4.685	4.694	4.703	4.712	4.721	4.730	4.738	910
920	4.738	4.747	4.756	4.765	4.774	4.783	4.791	4.800	4.809	4.818	4.827	920
930	4.827	4.836	4.845	4.854	4.863	4.872	4.880	4.889	4.898	4.907	4.916	930
940	4.916	4.925	4.934	4.943	4.952	4.961	4.970	4.979	4.988	4.997	5.006	940
950	5.006	5.015	5.024	5.033	5.042	5.051	5.060	5.069	5.078	5.087	5.096	950
960	5.096	5.105	5.114	5.123	5.133	5.142	5.151	5.160	5.169	5.178	5.187	960
970	5.187	5.196	5.205	5.214	5.224	5.233	5.242	5.251	5.260	5.269	5.278	970
980	5.278	5.288	5.297	5.306	5.315	5.324	5.334	5.343	5.352	5.361	5.370	980
990	5.370	5.380	5.389	5.398	5.407	5.416	5.426	5.435	5.444	5.453	5.463	990
1000	5.463	5.472	5.481	5.491	5.500	5.509	5.518	5.528	5.537	5.546	5.556	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	5.463	5.472	5.481	5.491	5.500	5.509	5.518	5.528	5.537	5.546	5.556	1000
1010	5.556	5.565	5.574	5.584	5.593	5.602	5.612	5.621	5.630	5.640	5.649	1010
1020	5.649	5.658	5.668	5.677	5.687	5.696	5.705	5.715	5.724	5.734	5.743	1020
1030	5.743	5.752	5.762	5.771	5.781	5.790	5.800	5.809	5.818	5.828	5.837	1030
1040	5.837	5.847	5.856	5.866	5.875	5.885	5.894	5.904	5.913	5.923	5.932	1040
1050	5.932	5.942	5.951	5.961	5.970	5.980	5.989	5.999	6.008	6.018	6.027	1050
1060	6.027	6.037	6.047	6.056	6.066	6.075	6.085	6.095	6.104	6.114	6.123	1060
1070	6.123	6.133	6.143	6.152	6.162	6.171	6.181	6.191	6.200	6.210	6.220	1070
1080	6.220	6.229	6.239	6.249	6.258	6.268	6.278	6.287	6.297	6.307	6.316	1080
1090	6.316	6.326	6.336	6.345	6.355	6.365	6.374	6.384	6.394	6.404	6.413	1090
1100	6.413	6.423	6.433	6.443	6.452	6.462	6.472	6.482	6.491	6.501	6.511	1100
1110	6.511	6.521	6.531	6.540	6.550	6.560	6.570	6.580	6.589	6.599	6.609	1110
1120	6.609	6.619	6.629	6.638	6.648	6.658	6.668	6.678	6.688	6.698	6.707	1120
1130	6.707	6.717	6.727	6.737	6.747	6.757	6.767	6.777	6.786	6.796	6.806	1130
1140	6.806	6.816	6.826	6.836	6.846	6.856	6.866	6.876	6.886	6.896	6.905	1140
1150	6.905	6.915	6.925	6.935	6.945	6.955	6.965	6.975	6.985	6.995	7.005	1150
1160	7.005	7.015	7.025	7.035	7.045	7.055	7.065	7.075	7.085	7.095	7.105	1160
1170	7.105	7.115	7.125	7.135	7.145	7.155	7.165	7.175	7.185	7.196	7.206	1170
1180	7.206	7.216	7.226	7.236	7.246	7.256	7.266	7.276	7.286	7.296	7.306	1180
1190	7.306	7.317	7.327	7.337	7.347	7.357	7.367	7.377	7.387	7.398	7.408	1190
1200	7.408	7.418	7.428	7.438	7.448	7.458	7.469	7.479	7.489	7.499	7.509	1200
1210	7.509	7.519	7.530	7.540	7.550	7.560	7.570	7.581	7.591	7.601	7.611	1210
1220	7.611	7.622	7.632	7.642	7.652	7.662	7.673	7.683	7.693	7.703	7.714	1220
1230	7.714	7.724	7.734	7.745	7.755	7.765	7.775	7.786	7.796	7.806	7.816	1230
1240	7.816	7.827	7.837	7.847	7.858	7.868	7.878	7.889	7.899	7.909	7.920	1240
1250	7.920	7.930	7.940	7.951	7.961	7.971	7.982	7.992	8.002	8.013	8.023	1250
1260	8.023	8.034	8.044	8.054	8.065	8.075	8.085	8.096	8.106	8.117	8.127	1260
1270	8.127	8.137	8.148	8.158	8.169	8.179	8.190	8.200	8.210	8.221	8.231	1270
1280	8.231	8.242	8.252	8.263	8.273	8.284	8.294	8.305	8.315	8.325	8.336	1280
1290	8.336	8.346	8.357	8.367	8.378	8.388	8.399	8.409	8.420	8.430	8.441	1290
1300	8.441	8.451	8.462	8.472	8.483	8.493	8.504	8.515	8.525	8.536	8.546	1300
1310	8.546	8.557	8.567	8.578	8.588	8.599	8.610	8.620	8.631	8.641	8.652	1310
1320	8.652	8.662	8.673	8.684	8.694	8.705	8.715	8.726	8.737	8.747	8.758	1320
1330	8.758	8.768	8.779	8.790	8.800	8.811	8.821	8.832	8.843	8.853	8.864	1330
1340	8.864	8.875	8.885	8.896	8.907	8.917	8.928	8.939	8.949	8.960	8.971	1340
1350	8.971	8.981	8.992	9.003	9.013	9.024	9.035	9.045	9.056	9.067	9.078	1350
1360	9.078	9.088	9.099	9.110	9.120	9.131	9.142	9.153	9.163	9.174	9.185	1360
1370	9.185	9.196	9.206	9.217	9.228	9.239	9.249	9.260	9.271	9.282	9.292	1370
1380	9.292	9.303	9.314	9.325	9.335	9.346	9.357	9.368	9.379	9.389	9.400	1380
1390	9.400	9.411	9.422	9.433	9.443	9.454	9.465	9.476	9.487	9.498	9.508	1390
1400	9.508	9.519	9.530	9.541	9.552	9.563	9.573	9.584	9.595	9.606	9.617	1400
1410	9.617	9.628	9.638	9.649	9.660	9.671	9.682	9.693	9.704	9.715	9.725	1410
1420	9.725	9.736	9.747	9.758	9.769	9.780	9.791	9.802	9.813	9.824	9.834	1420
1430	9.834	9.845	9.856	9.867	9.878	9.889	9.900	9.911	9.922	9.933	9.944	1430
1440	9.944	9.955	9.966	9.977	9.988	9.998	10.009	10.020	10.031	10.042	10.053	1440
1450	10.053	10.064	10.075	10.086	10.097	10.108	10.119	10.130	10.141	10.152	10.163	1450
1460	10.163	10.174	10.185	10.196	10.207	10.218	10.229	10.240	10.251	10.262	10.273	1460
1470	10.273	10.284	10.295	10.306	10.317	10.328	10.339	10.350	10.361	10.372	10.383	1470
1480	10.383	10.395	10.406	10.417	10.428	10.439	10.450	10.461	10.472	10.483	10.494	1480
1490	10.494	10.505	10.516	10.527	10.538	10.549	10.561	10.572	10.583	10.594	10.605	1490
1500	10.605	10.616	10.627	10.638	10.649	10.660	10.671	10.683	10.694	10.705	10.716	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Thermoelectric Voltage in Millivolts											
1500	10.605	10.616	10.627	10.638	10.649	10.660	10.671	10.683	10.694	10.705	10.716	1500
1510	10.716	10.727	10.738	10.749	10.760	10.772	10.783	10.794	10.805	10.816	10.827	1510
1520	10.827	10.838	10.850	10.861	10.872	10.883	10.894	10.905	10.916	10.928	10.939	1520
1530	10.939	10.950	10.961	10.972	10.983	10.995	11.006	11.017	11.028	11.039	11.051	1530
1540	11.051	11.062	11.073	11.084	11.095	11.106	11.118	11.129	11.140	11.151	11.162	1540
1550	11.162	11.174	11.185	11.196	11.207	11.219	11.230	11.241	11.252	11.263	11.275	1550
1560	11.275	11.286	11.297	11.308	11.320	11.331	11.342	11.353	11.365	11.376	11.387	1560
1570	11.387	11.398	11.410	11.421	11.432	11.443	11.455	11.466	11.477	11.488	11.500	1570
1580	11.500	11.511	11.522	11.533	11.545	11.556	11.567	11.579	11.590	11.601	11.612	1580
1590	11.612	11.624	11.635	11.646	11.658	11.669	11.680	11.692	11.703	11.714	11.725	1590
1600	11.725	11.737	11.748	11.759	11.771	11.782	11.793	11.805	11.816	11.827	11.839	1600
1610	11.839	11.850	11.861	11.873	11.884	11.895	11.907	11.918	11.929	11.941	11.952	1610
1620	11.952	11.963	11.975	11.986	11.997	12.009	12.020	12.032	12.043	12.054	12.066	1620
1630	12.066	12.077	12.088	12.100	12.111	12.123	12.134	12.145	12.157	12.168	12.179	1630
1640	12.179	12.191	12.202	12.214	12.225	12.236	12.248	12.259	12.271	12.282	12.293	1640
1650	12.293	12.305	12.316	12.328	12.339	12.350	12.362	12.373	12.385	12.396	12.407	1650
1660	12.407	12.419	12.430	12.442	12.453	12.465	12.476	12.487	12.499	12.510	12.522	1660
1670	12.522	12.533	12.545	12.556	12.567	12.579	12.590	12.602	12.613	12.625	12.636	1670
1680	12.636	12.648	12.659	12.670	12.682	12.693	12.705	12.716	12.728	12.739	12.751	1680
1690	12.751	12.762	12.774	12.785	12.797	12.808	12.819	12.831	12.842	12.854	12.865	1690
1700	12.865	12.877	12.888	12.900	12.911	12.923	12.934	12.946	12.957	12.969	12.980	1700
1710	12.980	12.992	13.003	13.015	13.026	13.038	13.049	13.061	13.072	13.084	13.095	1710
1720	13.095	13.107	13.118	13.130	13.141	13.153	13.164	13.176	13.187	13.199	13.210	1720
1730	13.210	13.222	13.234	13.245	13.257	13.268	13.280	13.291	13.303	13.314	13.326	1730
1740	13.326	13.337	13.349	13.360	13.372	13.383	13.395	13.407	13.418	13.430	13.441	1740
1750	13.441	13.453	13.464	13.476	13.487	13.499	13.510	13.522	13.534	13.545	13.557	1750
1760	13.557	13.568	13.580	13.591	13.603	13.615	13.626	13.638	13.649	13.661	13.672	1760
1770	13.672	13.684	13.696	13.707	13.719	13.730	13.742	13.753	13.765	13.777	13.788	1770
1780	13.788	13.800	13.811	13.823	13.835	13.846	13.858	13.869	13.881	13.892	13.904	1780
1790	13.904	13.916	13.927	13.939	13.950	13.962	13.974	13.985	13.997	14.009	14.020	1790
1800	14.020	14.032	14.043	14.055	14.067	14.078	14.090	14.101	14.113	14.125	14.136	1800
1810	14.136	14.148	14.159	14.171	14.183	14.194	14.206	14.218	14.229	14.241	14.252	1810
1820	14.252	14.264	14.276	14.287	14.299	14.311	14.322	14.334	14.345	14.357	14.369	1820
1830	14.369	14.380	14.392	14.404	14.415	14.427	14.439	14.450	14.462	14.474	14.485	1830
1840	14.485	14.497	14.508	14.520	14.532	14.543	14.555	14.567	14.578	14.590	14.602	1840
1850	14.602	14.613	14.625	14.637	14.648	14.660	14.672	14.683	14.695	14.707	14.718	1850
1860	14.718	14.730	14.742	14.753	14.765	14.777	14.788	14.800	14.812	14.823	14.835	1860
1870	14.835	14.847	14.858	14.870	14.882	14.893	14.905	14.917	14.928	14.940	14.952	1870
1880	14.952	14.963	14.975	14.987	14.998	15.010	15.022	15.033	15.045	15.057	15.069	1880
1890	15.069	15.080	15.092	15.104	15.115	15.127	15.139	15.150	15.162	15.174	15.185	1890
1900	15.185	15.197	15.209	15.220	15.232	15.244	15.256	15.267	15.279	15.291	15.302	1900
1910	15.302	15.314	15.326	15.337	15.349	15.361	15.373	15.384	15.396	15.408	15.419	1910
1920	15.419	15.431	15.443	15.455	15.466	15.478	15.490	15.501	15.513	15.525	15.536	1920
1930	15.536	15.548	15.560	15.572	15.583	15.595	15.607	15.618	15.630	15.642	15.654	1930
1940	15.654	15.665	15.677	15.689	15.701	15.712	15.724	15.736	15.747	15.759	15.771	1940
1950	15.771	15.783	15.794	15.806	15.818	15.829	15.841	15.853	15.865	15.876	15.888	1950
1960	15.888	15.900	15.912	15.923	15.935	15.947	15.958	15.970	15.982	15.994	16.005	1960
1970	16.005	16.017	16.029	16.041	16.052	16.064	16.076	16.087	16.099	16.111	16.123	1970
1980	16.123	16.134	16.146	16.158	16.170	16.181	16.193	16.205	16.217	16.228	16.240	1980
1990	16.240	16.252	16.264	16.275	16.287	16.299	16.310	16.322	16.334	16.346	16.357	1990
2000	16.357	16.369	16.381	16.393	16.404	16.416	16.428	16.440	16.451	16.463	16.475	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	16.357	16.369	16.381	16.393	16.404	16.416	16.428	16.440	16.451	16.463	16.475	2000
2010	16.475	16.487	16.498	16.510	16.522	16.534	16.545	16.557	16.569	16.581	16.592	2010
2020	16.592	16.604	16.616	16.628	16.639	16.651	16.663	16.675	16.686	16.698	16.710	2020
2030	16.710	16.722	16.733	16.745	16.757	16.769	16.780	16.792	16.804	16.816	16.827	2030
2040	16.827	16.839	16.851	16.863	16.874	16.886	16.898	16.910	16.921	16.933	16.945	2040
2050	16.945	16.957	16.968	16.980	16.992	17.004	17.015	17.027	17.039	17.051	17.062	2050
2060	17.062	17.074	17.086	17.098	17.109	17.121	17.133	17.145	17.156	17.168	17.180	2060
2070	17.180	17.192	17.203	17.215	17.227	17.239	17.250	17.262	17.274	17.286	17.298	2070
2080	17.298	17.309	17.321	17.333	17.345	17.356	17.368	17.380	17.392	17.403	17.415	2080
2090	17.415	17.427	17.439	17.450	17.462	17.474	17.486	17.497	17.509	17.521	17.533	2090
2100	17.533	17.544	17.556	17.568	17.580	17.591	17.603	17.615	17.627	17.638	17.650	2100
2110	17.650	17.662	17.674	17.685	17.697	17.709	17.721	17.732	17.744	17.756	17.768	2110
2120	17.768	17.780	17.791	17.803	17.815	17.827	17.838	17.850	17.862	17.874	17.885	2120
2130	17.885	17.897	17.909	17.921	17.932	17.944	17.956	17.968	17.979	17.991	18.003	2130
2140	18.003	18.015	18.026	18.038	18.050	18.062	18.073	18.085	18.097	18.109	18.120	2140
2150	18.120	18.132	18.144	18.156	18.167	18.179	18.191	18.203	18.214	18.226	18.238	2150
2160	18.238	18.250	18.261	18.273	18.285	18.297	18.308	18.320	18.332	18.344	18.355	2160
2170	18.355	18.367	18.379	18.391	18.402	18.414	18.426	18.438	18.449	18.461	18.473	2170
2180	18.473	18.485	18.496	18.508	18.520	18.532	18.543	18.555	18.567	18.579	18.590	2180
2190	18.590	18.602	18.614	18.625	18.637	18.649	18.661	18.672	18.684	18.696	18.708	2190
2200	18.708	18.719	18.731	18.743	18.755	18.766	18.778	18.790	18.802	18.813	18.825	2200
2210	18.825	18.837	18.849	18.860	18.872	18.884	18.895	18.907	18.919	18.931	18.942	2210
2220	18.942	18.954	18.966	18.978	18.989	19.001	19.013	19.025	19.036	19.048	19.060	2220
2230	19.060	19.071	19.083	19.095	19.107	19.118	19.130	19.142	19.154	19.165	19.177	2230
2240	19.177	19.189	19.200	19.212	19.224	19.236	19.247	19.259	19.271	19.282	19.294	2240
2250	19.294	19.306	19.318	19.329	19.341	19.353	19.364	19.376	19.388	19.400	19.411	2250
2260	19.411	19.423	19.435	19.446	19.458	19.470	19.482	19.493	19.505	19.517	19.528	2260
2270	19.528	19.540	19.552	19.564	19.575	19.587	19.599	19.610	19.622	19.634	19.646	2270
2280	19.646	19.657	19.669	19.681	19.692	19.704	19.716	19.727	19.739	19.751	19.763	2280
2290	19.763	19.774	19.786	19.798	19.809	19.821	19.833	19.844	19.856	19.868	19.880	2290
2300	19.880	19.891	19.903	19.915	19.926	19.938	19.950	19.961	19.973	19.985	19.996	2300
2310	19.996	20.008	20.020	20.031	20.043	20.055	20.067	20.078	20.090	20.102	20.113	2310
2320	20.113	20.125	20.137	20.148	20.160	20.172	20.183	20.195	20.207	20.218	20.230	2320
2330	20.230	20.242	20.253	20.265	20.277	20.288	20.300	20.312	20.323	20.335	20.347	2330
2340	20.347	20.358	20.370	20.382	20.393	20.405	20.417	20.428	20.440	20.452	20.463	2340
2350	20.463	20.475	20.487	20.498	20.510	20.522	20.533	20.545	20.557	20.568	20.580	2350
2360	20.580	20.592	20.603	20.615	20.627	20.638	20.650	20.661	20.673	20.685	20.696	2360
2370	20.696	20.708	20.720	20.731	20.743	20.755	20.766	20.778	20.790	20.801	20.813	2370
2380	20.813	20.824	20.836	20.848	20.859	20.871	20.883	20.894	20.906	20.918	20.929	2380
2390	20.929	20.941	20.952	20.964	20.976	20.987	20.999	21.011	21.022	21.034	21.045	2390
2400	21.045	21.057	21.069	21.080	21.092	21.103	21.115	21.127	21.138	21.150	21.162	2400
2410	21.162	21.173	21.185	21.196	21.208	21.220	21.231	21.243	21.254	21.266	21.278	2410
2420	21.278	21.289	21.301	21.312	21.324	21.336	21.347	21.359	21.370	21.382	21.394	2420
2430	21.394	21.405	21.417	21.428	21.440	21.452	21.463	21.475	21.486	21.498	21.509	2430
2440	21.509	21.521	21.533	21.544	21.556	21.567	21.579	21.591	21.602	21.614	21.625	2440
2450	21.625	21.637	21.648	21.660	21.672	21.683	21.695	21.706	21.718	21.729	21.741	2450
2460	21.741	21.753	21.764	21.776	21.787	21.799	21.810	21.822	21.833	21.845	21.857	2460
2470	21.857	21.868	21.880	21.891	21.903	21.914	21.926	21.937	21.949	21.960	21.972	2470
2480	21.972	21.984	21.995	22.007	22.018	22.030	22.041	22.053	22.064	22.076	22.087	2480
2490	22.087	22.099	22.110	22.122	22.134	22.145	22.157	22.168	22.180	22.191	22.203	2490
2500	22.203	22.214	22.226	22.237	22.249	22.260	22.272	22.283	22.295	22.306	22.318	2500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Thermoelectric Voltage in Millivolts											
2500	22.203	22.214	22.226	22.237	22.249	22.260	22.272	22.283	22.295	22.306	22.318	2500
2510	22.318	22.329	22.341	22.352	22.364	22.375	22.387	22.398	22.410	22.421	22.433	2510
2520	22.433	22.444	22.456	22.467	22.479	22.490	22.502	22.513	22.525	22.536	22.548	2520
2530	22.548	22.559	22.571	22.582	22.594	22.605	22.617	22.628	22.640	22.651	22.663	2530
2540	22.663	22.674	22.686	22.697	22.709	22.720	22.731	22.743	22.754	22.766	22.777	2540
2550	22.777	22.789	22.800	22.812	22.823	22.835	22.846	22.858	22.869	22.880	22.892	2550
2560	22.892	22.903	22.915	22.926	22.938	22.949	22.961	22.972	22.983	22.995	23.006	2560
2570	23.006	23.018	23.029	23.041	23.052	23.064	23.075	23.086	23.098	23.109	23.121	2570
2580	23.121	23.132	23.143	23.155	23.166	23.178	23.189	23.201	23.212	23.223	23.235	2580
2590	23.235	23.246	23.258	23.269	23.280	23.292	23.303	23.315	23.326	23.337	23.349	2590
2600	23.349	23.360	23.372	23.383	23.394	23.406	23.417	23.429	23.440	23.451	23.463	2600
2610	23.463	23.474	23.486	23.497	23.508	23.520	23.531	23.542	23.554	23.565	23.577	2610
2620	23.577	23.588	23.599	23.611	23.622	23.633	23.645	23.656	23.668	23.679	23.690	2620
2630	23.690	23.702	23.713	23.724	23.736	23.747	23.758	23.770	23.781	23.792	23.804	2630
2640	23.804	23.815	23.826	23.838	23.849	23.860	23.872	23.883	23.894	23.906	23.917	2640
2650	23.917	23.928	23.940	23.951	23.962	23.974	23.985	23.996	24.008	24.019	24.030	2650
2660	24.030	24.042	24.053	24.064	24.076	24.087	24.098	24.110	24.121	24.132	24.143	2660
2670	24.143	24.155	24.166	24.177	24.189	24.200	24.211	24.222	24.234	24.245	24.256	2670
2680	24.256	24.268	24.279	24.290	24.301	24.313	24.324	24.335	24.347	24.358	24.369	2680
2690	24.369	24.380	24.392	24.403	24.414	24.425	24.437	24.448	24.459	24.470	24.482	2690
2700	24.482	24.493	24.504	24.516	24.527	24.538	24.549	24.560	24.572	24.583	24.594	2700
2710	24.594	24.605	24.617	24.628	24.639	24.650	24.662	24.673	24.684	24.695	24.707	2710
2720	24.707	24.718	24.729	24.740	24.751	24.763	24.774	24.785	24.796	24.807	24.819	2720
2730	24.819	24.830	24.841	24.852	24.863	24.875	24.886	24.897	24.908	24.919	24.931	2730
2740	24.931	24.942	24.953	24.964	24.975	24.987	24.998	25.009	25.020	25.031	25.042	2740
2750	25.042	25.054	25.065	25.076	25.087	25.098	25.109	25.121	25.132	25.143	25.154	2750
2760	25.154	25.165	25.176	25.188	25.199	25.210	25.221	25.232	25.243	25.254	25.266	2760
2770	25.266	25.277	25.288	25.299	25.310	25.321	25.332	25.344	25.355	25.366	25.377	2770
2780	25.377	25.388	25.399	25.410	25.421	25.433	25.444	25.455	25.466	25.477	25.488	2780
2790	25.488	25.499	25.510	25.521	25.532	25.544	25.555	25.566	25.577	25.588	25.599	2790
2800	25.599	25.610	25.621	25.632	25.643	25.654	25.666	25.677	25.688	25.699	25.710	2800
2810	25.710	25.721	25.732	25.743	25.754	25.765	25.776	25.787	25.798	25.809	25.820	2810
2820	25.820	25.832	25.843	25.854	25.865	25.876	25.887	25.898	25.909	25.920	25.931	2820
2830	25.931	25.942	25.953	25.964	25.975	25.986	25.997	26.008	26.019	26.030	26.041	2830
2840	26.041	26.052	26.063	26.074	26.085	26.096	26.107	26.118	26.129	26.140	26.151	2840
2850	26.151	26.162	26.173	26.184	26.195	26.206	26.217	26.228	26.239	26.250	26.261	2850
2860	26.261	26.272	26.283	26.294	26.305	26.316	26.327	26.338	26.349	26.360	26.371	2860
2870	26.371	26.382	26.393	26.404	26.415	26.426	26.437	26.447	26.458	26.469	26.480	2870
2880	26.480	26.491	26.502	26.513	26.524	26.535	26.546	26.557	26.568	26.579	26.590	2880
2890	26.590	26.601	26.611	26.622	26.633	26.644	26.655	26.666	26.677	26.688	26.699	2890
2900	26.699	26.710	26.721	26.731	26.742	26.753	26.764	26.775	26.786	26.797	26.808	2900
2910	26.808	26.819	26.829	26.840	26.851	26.862	26.873	26.884	26.895	26.905	26.916	2910
2920	26.916	26.927	26.938	26.949	26.960	26.971	26.981	26.992	27.003	27.014	27.025	2920
2930	27.025	27.036	27.047	27.057	27.068	27.079	27.090	27.101	27.112	27.122	27.133	2930
2940	27.133	27.144	27.155	27.166	27.176	27.187	27.198	27.209	27.220	27.230	27.241	2940
2950	27.241	27.252	27.263	27.274	27.284	27.295	27.306	27.317	27.328	27.338	27.349	2950
2960	27.349	27.360	27.371	27.382	27.392	27.403	27.414	27.425	27.435	27.446	27.457	2960
2970	27.457	27.468	27.478	27.489	27.500	27.511	27.521	27.532	27.543	27.554	27.564	2970
2980	27.564	27.575	27.586	27.597	27.607	27.618	27.629	27.639	27.650	27.661	27.672	2980
2990	27.672	27.682	27.693	27.704	27.714	27.725	27.736	27.747	27.757	27.768	27.779	2990
3000	27.779	27.789	27.800	27.811	27.821	27.832	27.843	27.854	27.864	27.875	27.886	3000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
3000	27.779	27.789	27.800	27.811	27.821	27.832	27.843	27.854	27.864	27.875	27.886	**3000**
3010	27.886	27.896	27.907	27.918	27.928	27.939	27.950	27.960	27.971	27.982	27.992	**3010**
3020	27.992	28.003	28.013	28.024	28.035	28.045	28.056	28.067	28.077	28.088	28.099	**3020**
3030	28.099	28.109	28.120	28.130	28.141	28.152	28.162	28.173	28.184	28.194	28.205	**3030**
3040	28.205	28.215	28.226	28.237	28.247	28.258	28.268	28.279	28.290	28.300	28.311	**3040**
3050	28.311	28.321	28.332	28.342	28.353	28.364	28.374	28.385	28.395	28.406	28.416	**3050**
3060	28.416	28.427	28.438	28.448	28.459	28.469	28.480	28.490	28.501	28.511	28.522	**3060**
3070	28.522	28.533	28.543	28.554	28.564	28.575	28.585	28.596	28.606	28.617	28.627	**3070**
3080	28.627	28.638	28.648	28.659	28.669	28.680	28.690	28.701	28.711	28.722	28.732	**3080**
3090	28.732	28.743	28.753	28.764	28.774	28.785	28.795	28.806	28.816	28.827	28.837	**3090**
3100	28.837	28.848	28.858	28.869	28.879	28.889	28.900	28.910	28.921	28.931	28.942	**3100**
3110	28.942	28.952	28.963	28.973	28.983	28.994	29.004	29.015	29.025	29.036	29.046	**3110**
3120	29.046	29.056	29.067	29.077	29.088	29.098	29.109	29.119	29.129	29.140	29.150	**3120**
3130	29.150	29.161	29.171	29.181	29.192	29.202	29.213	29.223	29.233	29.244	29.254	**3130**
3140	29.254	29.264	29.275	29.285	29.296	29.306	29.316	29.327	29.337	29.347	29.358	**3140**
3150	29.358	29.368	29.378	29.389	29.399	29.409	29.420	29.430	29.440	29.451	29.461	**3150**
3160	29.461	29.471	29.482	29.492	29.502	29.513	29.523	29.533	29.544	29.554	29.564	**3160**
3170	29.564	29.575	29.585	29.595	29.605	29.616	29.626	29.636	29.647	29.657	29.667	**3170**
3180	29.667	29.677	29.688	29.698	29.708	29.718	29.729	29.739	29.749	29.760	29.770	**3180**
3190	29.770	29.780	29.790	29.801	29.811	29.821	29.831	29.841	29.852	29.862	29.872	**3190**
3200	29.872	29.882	29.893	29.903	29.913	29.923	29.933	29.944	29.954	29.964	29.974	**3200**
3210	29.974	29.985	29.995	30.005	30.015	30.025	30.035	30.046	30.056	30.066	30.076	**3210**
3220	30.076	30.086	30.097	30.107	30.117	30.127	30.137	30.147	30.158	30.168	30.178	**3220**
3230	30.178	30.188	30.198	30.208	30.218	30.229	30.239	30.249	30.259	30.269	30.279	**3230**
3240	30.279	30.289	30.299	30.310	30.320	30.330	30.340	30.350	30.360	30.370	30.380	**3240**
3250	30.380	30.390	30.401	30.411	30.421	30.431	30.441	30.451	30.461	30.471	30.481	**3250**
3260	30.481	30.491	30.501	30.511	30.521	30.532	30.542	30.552	30.562	30.572	30.582	**3260**
3270	30.582	30.592	30.602	30.612	30.622	30.632	30.642	30.652	30.662	30.672	30.682	**3270**
3280	30.682	30.692	30.702	30.712	30.722	30.732	30.742	30.752	30.762	30.772	30.782	**3280**
3290	30.782	30.792	30.802	30.812	30.822	30.832	30.842	30.852	30.862	30.872	30.882	**3290**
3300	30.882	30.892	30.902	30.912	30.922	30.932	30.942	30.952	30.962	30.972	30.982	**3300**
3310	30.982	30.991	31.001	31.011	31.021	31.031	31.041	31.051	31.061	31.071	31.081	**3310**
3320	31.081	31.091	31.101	31.111	31.120	31.130	31.140	31.150	31.160	31.170	31.180	**3320**
3330	31.180	31.190	31.200	31.209	31.219	31.229	31.239	31.249	31.259	31.269	31.279	**3330**
3340	31.279	31.288	31.298	31.308	31.318	31.328	31.338	31.347	31.357	31.367	31.377	**3340**
3350	31.377	31.387	31.397	31.406	31.416	31.426	31.436	31.446	31.456	31.465	31.475	**3350**
3360	31.475	31.485	31.495	31.505	31.514	31.524	31.534	31.544	31.553	31.563	31.573	**3360**
3370	31.573	31.583	31.593	31.602	31.612	31.622	31.632	31.641	31.651	31.661	31.671	**3370**
3380	31.671	31.680	31.690	31.700	31.710	31.719	31.729	31.739	31.749	31.758	31.768	**3380**
3390	31.768	31.778	31.787	31.797	31.807	31.817	31.826	31.836	31.846	31.855	31.865	**3390**
3400	31.865	31.875	31.884	31.894	31.904	31.913	31.923	31.933	31.942	31.952	31.962	**3400**
3410	31.962	31.971	31.981	31.991	32.000	32.010	32.020	32.029	32.039	32.049	32.058	**3410**
3420	32.058	32.068	32.078	32.087	32.097	32.106	32.116	32.126	32.135	32.145	32.154	**3420**
3430	32.154	32.164	32.174	32.183	32.193	32.202	32.212	32.222	32.231	32.241	32.250	**3430**
3440	32.250	32.260	32.270	32.279	32.289	32.298	32.308	32.317	32.327	32.336	32.346	**3440**
3450	32.346	32.356	32.365	32.375	32.384	32.394	32.403	32.413	32.422	32.432	32.441	**3450**
3460	32.441	32.451	32.460	32.470	32.479	32.489	32.498	32.508	32.517	32.527	32.536	**3460**
3470	32.536	32.546	32.555	32.565	32.574	32.584	32.593	32.603	32.612	32.622	32.631	**3470**
3480	32.631	32.640	32.650	32.659	32.669	32.678	32.688	32.697	32.707	32.716	32.725	**3480**
3490	32.725	32.735	32.744	32.754	32.763	32.773	32.782	32.791	32.801	32.810	32.820	**3490**
3500	32.820	32.829	32.838	32.848	32.857	32.867	32.876	32.885	32.895	32.904	32.913	**3500**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
3500	32.820	32.829	32.838	32.848	32.857	32.867	32.876	32.885	32.895	32.904	32.913	3500
3510	32.913	32.923	32.932	32.942	32.951	32.960	32.970	32.979	32.988	32.998	33.007	3510
3520	33.007	33.016	33.026	33.035	33.044	33.054	33.063	33.072	33.082	33.091	33.100	3520
3530	33.100	33.109	33.119	33.128	33.137	33.147	33.156	33.165	33.175	33.184	33.193	3530
3540	33.193	33.202	33.212	33.221	33.230	33.239	33.249	33.258	33.267	33.276	33.286	3540
3550	33.286	33.295	33.304	33.313	33.323	33.332	33.341	33.350	33.360	33.369	33.378	3550
3560	33.378	33.387	33.396	33.406	33.415	33.424	33.433	33.442	33.452	33.461	33.470	3560
3570	33.470	33.479	33.488	33.498	33.507	33.516	33.525	33.534	33.543	33.553	33.562	3570
3580	33.562	33.571	33.580	33.589	33.598	33.607	33.617	33.626	33.635	33.644	33.653	3580
3590	33.653	33.662	33.671	33.680	33.690	33.699	33.708	33.717	33.726	33.735	33.744	3590
3600	33.744	33.753	33.762	33.771	33.781	33.790	33.799	33.808	33.817	33.826	33.835	3600
3610	33.835	33.844	33.853	33.862	33.871	33.880	33.889	33.898	33.907	33.916	33.925	3610
3620	33.925	33.934	33.943	33.952	33.961	33.970	33.979	33.988	33.997	34.006	34.015	3620
3630	34.015	34.024	34.033	34.042	34.051	34.060	34.069	34.078	34.087	34.096	34.105	3630
3640	34.105	34.114	34.123	34.132	34.141	34.150	34.159	34.168	34.177	34.186	34.195	3640
3650	34.195	34.204	34.213	34.222	34.230	34.239	34.248	34.257	34.266	34.275	34.284	3650
3660	34.284	34.293	34.302	34.311	34.319	34.328	34.337	34.346	34.355	34.364	34.373	3660
3670	34.373	34.382	34.390	34.399	34.408	34.417	34.426	34.435	34.444	34.452	34.461	3670
3680	34.461	34.470	34.479	34.488	34.497	34.505	34.514	34.523	34.532	34.541	34.549	3680
3690	34.549	34.558	34.567	34.576	34.585	34.593	34.602	34.611	34.620	34.629	34.637	3690
3700	34.637	34.646	34.655	34.664	34.672	34.681	34.690	34.699	34.707	34.716	34.725	3700
3710	34.725	34.734	34.742	34.751	34.760	34.768	34.777	34.786	34.795	34.803	34.812	3710
3720	34.812	34.821	34.829	34.838	34.847	34.855	34.864	34.873	34.881	34.890	34.899	3720
3730	34.899	34.908	34.916	34.925	34.933	34.942	34.951	34.959	34.968	34.977	34.985	3730
3740	34.985	34.994	35.003	35.011	35.020	35.029	35.037	35.046	35.054	35.063	35.072	3740
3750	35.072	35.080	35.089	35.097	35.106	35.115	35.123	35.132	35.140	35.149	35.157	3750
3760	35.157	35.166	35.175	35.183	35.192	35.200	35.209	35.217	35.226	35.234	35.243	3760
3770	35.243	35.251	35.260	35.269	35.277	35.286	35.294	35.303	35.311	35.320	35.328	3770
3780	35.328	35.337	35.345	35.354	35.362	35.371	35.379	35.388	35.396	35.404	35.413	3780
3790	35.413	35.421	35.430	35.438	35.447	35.455	35.464	35.472	35.481	35.489	35.497	3790
3800	35.497	35.506	35.514	35.523	35.531	35.540	35.548	35.556	35.565	35.573	35.582	3800
3810	35.582	35.590	35.598	35.607	35.615	35.623	35.632	35.640	35.649	35.657	35.665	3810
3820	35.665	35.674	35.682	35.690	35.699	35.707	35.715	35.724	35.732	35.740	35.749	3820
3830	35.749	35.757	35.765	35.774	35.782	35.790	35.799	35.807	35.815	35.824	35.832	3830
3840	35.832	35.840	35.848	35.857	35.865	35.873	35.882	35.890	35.898	35.906	35.915	3840
3850	35.915	35.923	35.931	35.939	35.948	35.956	35.964	35.972	35.981	35.989	35.997	3850
3860	35.997	36.005	36.013	36.022	36.030	36.038	36.046	36.054	36.063	36.071	36.079	3860
3870	36.079	36.087	36.095	36.104	36.112	36.120	36.128	36.136	36.144	36.153	36.161	3870
3880	36.161	36.169	36.177	36.185	36.193	36.201	36.210	36.218	36.226	36.234	36.242	3880
3890	36.242	36.250	36.258	36.266	36.275	36.283	36.291	36.299	36.307	36.315	36.323	3890
3900	36.323	36.331	36.339	36.347	36.355	36.363	36.371	36.380	36.388	36.396	36.404	3900
3910	36.404	36.412	36.420	36.428	36.436	36.444	36.452	36.460	36.468	36.476	36.484	3910
3920	36.484	36.492	36.500	36.508	36.516	36.524	36.532	36.540	36.548	36.556	36.564	3920
3930	36.564	36.572	36.580	36.588	36.596	36.604	36.612	36.619	36.627	36.635	36.643	3930
3940	36.643	36.651	36.659	36.667	36.675	36.683	36.691	36.699	36.707	36.715	36.722	3940
3950	36.722	36.730	36.738	36.746	36.754	36.762	36.770	36.778	36.785	36.793	36.801	3950
3960	36.801	36.809	36.817	36.825	36.833	36.840	36.848	36.856	36.864	36.872	36.880	3960
3970	36.880	36.887	36.895	36.903	36.911	36.919	36.926	36.934	36.942	36.950	36.958	3970
3980	36.958	36.965	36.973	36.981	36.989	36.996	37.004	37.012	37.020	37.028	37.035	3980
3990	37.035	37.043	37.051	37.058	37.066	37.074	37.082	37.089	37.097	37.105	37.113	3990
4000	37.113	37.120	37.128	37.136	37.143	37.151	37.159	37.166	37.174	37.182	37.189	4000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 2 Tungsten versus Tungsten–26 % Rhenium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
4000	37.113	37.120	37.128	37.136	37.143	37.151	37.159	37.166	37.174	37.182	37.189	**4000**
4010	37.189	37.197	37.205	37.212	37.220	37.228	37.235	37.243	37.251	37.258	37.266	**4010**
4020	37.266	37.274	37.281	37.289	37.296	37.304	37.312	37.319	37.327	37.334	37.342	**4020**
4030	37.342	37.350	37.357	37.365	37.372	37.380	37.388	37.395	37.403	37.410	37.418	**4030**
4040	37.418	37.425	37.433	37.440	37.448	37.456	37.463	37.471	37.478	37.486	37.493	**4040**
4050	37.493	37.501	37.508	37.516	37.523	37.531	37.538	37.546	37.553	37.561	37.568	**4050**
4060	37.568	37.576	37.583	37.590	37.598	37.605	37.613	37.620	37.628	37.635	37.643	**4060**
4070	37.643	37.650	37.658	37.665	37.672	37.680	37.687	37.695	37.702	37.709	37.717	**4070**
4080	37.717	37.724	37.732	37.739	37.746	37.754	37.761	37.768	37.776	37.783	37.791	**4080**
4090	37.791	37.798	37.805	37.813	37.820	37.827	37.835	37.842	37.849	37.857	37.864	**4090**
4100	37.864	37.871	37.879	37.886	37.893	37.900	37.908	37.915	37.922	37.930	37.937	**4100**
4110	37.937	37.944	37.951	37.959	37.966	37.973	37.980	37.988	37.995	38.002	38.009	**4110**
4120	38.009	38.017	38.024	38.031	38.038	38.046	38.053	38.060	38.067	38.074	38.082	**4120**
4130	38.082	38.089	38.096	38.103	38.110	38.118	38.125	38.132	38.139	38.146	38.153	**4130**
4140	38.153	38.161	38.168	38.175	38.182	38.189	38.196	38.203	38.210	38.218	38.225	**4140**
4150	38.225	38.232	38.239	38.246	38.253	38.260	38.267	38.274	38.281	38.289	38.296	**4150**
4160	38.296	38.303	38.310	38.317	38.324	38.331	38.338	38.345	38.352	38.359	38.366	**4160**
4170	38.366	38.373	38.380	38.387	38.394	38.401	38.408	38.415	38.422	38.429	38.436	**4170**
4180	38.436	38.443	38.450	38.457	38.464	38.471	38.478	38.485	38.492	38.499	38.506	**4180**
4190	38.506	38.513	38.520	38.527	38.534	38.540	38.547	38.554	38.561	38.568	38.575	**4190**
4200	38.575											**4200**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Tungsten versus Tungsten - 26% Rhenium thermocouples.

32 °F to 1167.107 °F

$$c_0 = -1.583\,958\,522 \times 10^{-02}$$
$$c_1 = 2.772\,681\,020 \times 10^{-04}$$
$$c_2 = 6.867\,532\,076 \times 10^{-06}$$
$$c_3 = -2.007\,966\,008 \times 10^{-09}$$
$$c_4 = 4.321\,850\,871 \times 10^{-13}$$
$$c_5 = -9.043\,972\,880 \times 10^{-17}$$

1167.107 °F to 4200 °F

$$c_0 = -1.276\,594\,726$$
$$c_1 = 5.364\,619\,207 \times 10^{-03}$$
$$c_2 = -1.661\,183\,970 \times 10^{-06}$$
$$c_3 = 5.824\,006\,857 \times 10^{-09}$$
$$c_4 = -3.889\,648\,278 \times 10^{-12}$$
$$c_5 = 1.345\,592\,929 \times 10^{-15}$$
$$c_6 = -2.709\,518\,871 \times 10^{-19}$$
$$c_7 = 2.995\,846\,596 \times 10^{-23}$$
$$c_8 = -1.409\,677\,575 \times 10^{-27}$$

TABLE 3 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
0	0.000	0.030	0.060	0.090	0.120	0.150	0.180	0.210	0.241	0.271	0.302	0
10	0.302	0.332	0.363	0.394	0.424	0.455	0.486	0.517	0.548	0.579	0.610	10
20	0.610	0.641	0.673	0.704	0.735	0.767	0.798	0.830	0.862	0.894	0.925	20
30	0.925	0.957	0.989	1.021	1.053	1.085	1.117	1.150	1.182	1.214	1.247	30
40	1.247	1.279	1.312	1.345	1.377	1.410	1.443	1.476	1.509	1.542	1.575	40
50	1.575	1.608	1.641	1.674	1.707	1.741	1.774	1.808	1.841	1.875	1.908	50
60	1.908	1.942	1.976	2.010	2.044	2.078	2.112	2.146	2.180	2.214	2.248	60
70	2.248	2.282	2.317	2.351	2.386	2.420	2.455	2.489	2.524	2.559	2.593	70
80	2.593	2.628	2.663	2.698	2.733	2.768	2.803	2.838	2.874	2.909	2.944	80
90	2.944	2.980	3.015	3.050	3.086	3.122	3.157	3.193	3.229	3.264	3.300	90
100	3.300	3.336	3.372	3.408	3.444	3.480	3.516	3.553	3.589	3.625	3.661	100
110	3.661	3.698	3.734	3.771	3.807	3.844	3.881	3.917	3.954	3.991	4.028	110
120	4.028	4.064	4.101	4.138	4.175	4.212	4.250	4.287	4.324	4.361	4.399	120
130	4.399	4.436	4.473	4.511	4.548	4.586	4.623	4.661	4.699	4.736	4.774	130
140	4.774	4.812	4.850	4.888	4.925	4.963	5.001	5.039	5.078	5.116	5.154	140
150	5.154	5.192	5.230	5.269	5.307	5.346	5.384	5.422	5.461	5.500	5.538	150
160	5.538	5.577	5.615	5.654	5.693	5.732	5.771	5.810	5.848	5.887	5.926	160
170	5.926	5.965	6.005	6.044	6.083	6.122	6.161	6.201	6.240	6.279	6.319	170
180	6.319	6.358	6.398	6.437	6.477	6.516	6.556	6.596	6.635	6.675	6.715	180
190	6.715	6.755	6.794	6.834	6.874	6.914	6.954	6.994	7.034	7.074	7.115	190
200	7.115	7.155	7.195	7.235	7.275	7.316	7.356	7.396	7.437	7.477	7.518	200
210	7.518	7.558	7.599	7.639	7.680	7.721	7.761	7.802	7.843	7.884	7.924	210
220	7.924	7.965	8.006	8.047	8.088	8.129	8.170	8.211	8.252	8.293	8.334	220
230	8.334	8.375	8.416	8.458	8.499	8.540	8.582	8.623	8.664	8.706	8.747	230
240	8.747	8.788	8.830	8.871	8.913	8.955	8.996	9.038	9.079	9.121	9.163	240
250	9.163	9.205	9.246	9.288	9.330	9.372	9.414	9.456	9.498	9.540	9.581	250
260	9.581	9.623	9.666	9.708	9.750	9.792	9.834	9.876	9.918	9.961	10.003	260
270	10.003	10.045	10.087	10.130	10.172	10.214	10.257	10.299	10.342	10.384	10.427	270
280	10.427	10.469	10.512	10.554	10.597	10.639	10.682	10.725	10.767	10.810	10.853	280
290	10.853	10.896	10.938	10.981	11.024	11.067	11.110	11.153	11.196	11.238	11.281	290
300	11.281	11.324	11.367	11.410	11.453	11.497	11.540	11.583	11.626	11.669	11.712	300
310	11.712	11.755	11.799	11.842	11.885	11.928	11.972	12.015	12.058	12.102	12.145	310
320	12.145	12.188	12.232	12.275	12.319	12.362	12.405	12.449	12.492	12.536	12.580	320
330	12.580	12.623	12.667	12.710	12.754	12.798	12.841	12.885	12.929	12.972	13.016	330
340	13.016	13.060	13.104	13.147	13.191	13.235	13.279	13.323	13.366	13.410	13.454	340
350	13.454	13.498	13.542	13.586	13.630	13.674	13.718	13.762	13.806	13.850	13.894	350
360	13.894	13.938	13.982	14.026	14.070	14.114	14.159	14.203	14.247	14.291	14.335	360
370	14.335	14.379	14.424	14.468	14.512	14.556	14.601	14.645	14.689	14.733	14.778	370
380	14.778	14.822	14.866	14.911	14.955	15.000	15.044	15.088	15.133	15.177	15.222	380
390	15.222	15.266	15.311	15.355	15.400	15.444	15.489	15.533	15.578	15.622	15.667	390
400	15.667	15.711	15.756	15.800	15.845	15.890	15.934	15.979	16.023	16.068	16.113	400
410	16.113	16.157	16.202	16.247	16.291	16.336	16.381	16.425	16.470	16.515	16.560	410
420	16.560	16.604	16.649	16.694	16.739	16.784	16.828	16.873	16.918	16.963	17.008	420
430	17.008	17.052	17.097	17.142	17.187	17.232	17.277	17.321	17.366	17.411	17.456	430
440	17.456	17.501	17.546	17.591	17.636	17.681	17.726	17.771	17.816	17.860	17.905	440
450	17.905	17.950	17.995	18.040	18.085	18.130	18.175	18.220	18.265	18.310	18.355	450
460	18.355	18.400	18.445	18.490	18.535	18.580	18.625	18.670	18.715	18.760	18.806	460
470	18.806	18.851	18.896	18.941	18.986	19.031	19.076	19.121	19.166	19.211	19.256	470
480	19.256	19.301	19.346	19.391	19.437	19.482	19.527	19.572	19.617	19.662	19.707	480
490	19.707	19.752	19.797	19.843	19.888	19.933	19.978	20.023	20.068	20.113	20.158	490
500	20.158	20.204	20.249	20.294	20.339	20.384	20.429	20.474	20.519	20.565	20.610	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 3 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	20.158	20.204	20.249	20.294	20.339	20.384	20.429	20.474	20.519	20.565	20.610	**500**
510	20.610	20.655	20.700	20.745	20.790	20.835	20.880	20.926	20.971	21.016	21.061	**510**
520	21.061	21.106	21.151	21.196	21.242	21.287	21.332	21.377	21.422	21.467	21.512	**520**
530	21.512	21.557	21.603	21.648	21.693	21.738	21.783	21.828	21.873	21.918	21.963	**530**
540	21.963	22.009	22.054	22.099	22.144	22.189	22.234	22.279	22.324	22.369	22.414	**540**
550	22.414	22.459	22.504	22.550	22.595	22.640	22.685	22.730	22.775	22.820	22.865	**550**
560	22.865	22.910	22.955	23.000	23.045	23.090	23.135	23.180	23.225	23.270	23.315	**560**
570	23.315	23.360	23.405	23.450	23.495	23.540	23.585	23.630	23.675	23.720	23.765	**570**
580	23.765	23.810	23.855	23.900	23.945	23.990	24.035	24.080	24.125	24.169	24.214	**580**
590	24.214	24.259	24.304	24.349	24.394	24.439	24.484	24.528	24.573	24.618	24.663	**590**
600	24.663	24.708	24.753	24.797	24.842	24.887	24.932	24.977	25.021	25.066	25.111	**600**
610	25.111	25.156	25.201	25.245	25.290	25.335	25.379	25.424	25.469	25.514	25.558	**610**
620	25.558	25.603	25.648	25.692	25.737	25.782	25.826	25.871	25.915	25.960	26.005	**620**
630	26.005	26.049	26.094	26.138	26.183	26.228	26.272	26.317	26.361	26.406	26.450	**630**
640	26.450	26.495	26.539	26.584	26.628	26.673	26.717	26.762	26.806	26.850	26.895	**640**
650	26.895	26.939	26.984	27.028	27.072	27.117	27.161	27.205	27.250	27.294	27.338	**650**
660	27.338	27.383	27.427	27.471	27.515	27.560	27.604	27.648	27.692	27.737	27.781	**660**
670	27.781	27.825	27.869	27.913	27.957	28.002	28.046	28.090	28.134	28.178	28.222	**670**
680	28.222	28.266	28.310	28.354	28.398	28.442	28.486	28.530	28.574	28.618	28.662	**680**
690	28.662	28.706	28.750	28.794	28.838	28.882	28.925	28.969	29.013	29.057	29.101	**690**
700	29.101	29.145	29.188	29.232	29.276	29.320	29.363	29.407	29.451	29.494	29.538	**700**
710	29.538	29.582	29.625	29.669	29.713	29.756	29.800	29.843	29.887	29.930	29.974	**710**
720	29.974	30.017	30.061	30.104	30.148	30.191	30.235	30.278	30.322	30.365	30.408	**720**
730	30.408	30.452	30.495	30.538	30.582	30.625	30.668	30.711	30.755	30.798	30.841	**730**
740	30.841	30.884	30.928	30.971	31.014	31.057	31.100	31.143	31.186	31.229	31.272	**740**
750	31.272	31.315	31.358	31.401	31.444	31.487	31.530	31.573	31.616	31.659	31.702	**750**
760	31.702	31.745	31.788	31.831	31.874	31.916	31.959	32.002	32.045	32.088	32.130	**760**
770	32.130	32.173	32.216	32.259	32.301	32.344	32.387	32.429	32.472	32.514	32.557	**770**
780	32.557	32.600	32.642	32.685	32.727	32.770	32.812	32.855	32.897	32.940	32.982	**780**
790	32.982	33.025	33.067	33.110	33.152	33.195	33.237	33.279	33.322	33.364	33.406	**790**
800	33.406	33.449	33.491	33.533	33.575	33.618	33.660	33.702	33.744	33.786	33.828	**800**
810	33.828	33.871	33.913	33.955	33.997	34.039	34.081	34.123	34.165	34.207	34.249	**810**
820	34.249	34.291	34.333	34.375	34.417	34.459	34.501	34.543	34.585	34.626	34.668	**820**
830	34.668	34.710	34.752	34.794	34.836	34.877	34.919	34.961	35.002	35.044	35.086	**830**
840	35.086	35.127	35.169	35.211	35.252	35.294	35.336	35.377	35.419	35.460	35.502	**840**
850	35.502	35.543	35.585	35.626	35.668	35.709	35.750	35.792	35.833	35.875	35.916	**850**
860	35.916	35.957	35.999	36.040	36.081	36.122	36.164	36.205	36.246	36.287	36.328	**860**
870	36.328	36.370	36.411	36.452	36.493	36.534	36.575	36.616	36.657	36.698	36.739	**870**
880	36.739	36.780	36.821	36.862	36.903	36.944	36.985	37.026	37.067	37.108	37.148	**880**
890	37.148	37.189	37.230	37.271	37.312	37.352	37.393	37.434	37.474	37.515	37.556	**890**
900	37.556	37.596	37.637	37.678	37.718	37.759	37.799	37.840	37.880	37.921	37.961	**900**
910	37.961	38.002	38.042	38.083	38.123	38.163	38.204	38.244	38.284	38.325	38.365	**910**
920	38.365	38.405	38.446	38.486	38.526	38.566	38.606	38.647	38.687	38.727	38.767	**920**
930	38.767	38.807	38.847	38.887	38.927	38.967	39.007	39.047	39.087	39.127	39.167	**930**
940	39.167	39.207	39.247	39.287	39.327	39.367	39.406	39.446	39.486	39.526	39.565	**940**
950	39.565	39.605	39.645	39.685	39.724	39.764	39.804	39.843	39.883	39.922	39.962	**950**
960	39.962	40.001	40.041	40.080	40.120	40.159	40.199	40.238	40.278	40.317	40.356	**960**
970	40.356	40.396	40.435	40.474	40.514	40.553	40.592	40.631	40.671	40.710	40.749	**970**
980	40.749	40.788	40.827	40.866	40.906	40.945	40.984	41.023	41.062	41.101	41.140	**980**
990	41.140	41.179	41.218	41.257	41.295	41.334	41.373	41.412	41.451	41.490	41.529	**990**
1000	41.529	41.567	41.606	41.645	41.684	41.722	41.761	41.800	41.838	41.877	41.915	**1000**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

TABLE 3 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1000	41.529	41.567	41.606	41.645	41.684	41.722	41.761	41.800	41.838	41.877	41.915	**1000**
1010	41.915	41.954	41.993	42.031	42.070	42.108	42.147	42.185	42.223	42.262	42.300	**1010**
1020	42.300	42.339	42.377	42.415	42.454	42.492	42.530	42.569	42.607	42.645	42.683	**1020**
1030	42.683	42.721	42.760	42.798	42.836	42.874	42.912	42.950	42.988	43.026	43.064	**1030**
1040	43.064	43.102	43.140	43.178	43.216	43.254	43.292	43.330	43.368	43.405	43.443	**1040**
1050	43.443	43.481	43.519	43.557	43.594	43.632	43.670	43.707	43.745	43.783	43.820	**1050**
1060	43.820	43.858	43.895	43.933	43.971	44.008	44.046	44.083	44.120	44.158	44.195	**1060**
1070	44.195	44.233	44.270	44.307	44.345	44.382	44.419	44.457	44.494	44.531	44.568	**1070**
1080	44.568	44.605	44.643	44.680	44.717	44.754	44.791	44.828	44.865	44.902	44.939	**1080**
1090	44.939	44.976	45.013	45.050	45.087	45.124	45.161	45.198	45.235	45.272	45.308	**1090**
1100	45.308	45.345	45.382	45.419	45.455	45.492	45.529	45.565	45.602	45.639	45.675	**1100**
1110	45.675	45.712	45.748	45.785	45.822	45.858	45.895	45.931	45.967	46.004	46.040	**1110**
1120	46.040	46.077	46.113	46.149	46.186	46.222	46.258	46.295	46.331	46.367	46.403	**1120**
1130	46.403	46.439	46.476	46.512	46.548	46.584	46.620	46.656	46.692	46.728	46.764	**1130**
1140	46.764	46.800	46.836	46.872	46.908	46.944	46.980	47.016	47.051	47.087	47.123	**1140**
1150	47.123	47.159	47.195	47.230	47.266	47.302	47.337	47.373	47.409	47.444	47.480	**1150**
1160	47.480	47.515	47.551	47.586	47.622	47.657	47.693	47.728	47.764	47.799	47.835	**1160**
1170	47.835	47.870	47.905	47.941	47.976	48.011	48.046	48.082	48.117	48.152	48.187	**1170**
1180	48.187	48.223	48.258	48.293	48.328	48.363	48.398	48.433	48.468	48.503	48.538	**1180**
1190	48.538	48.573	48.608	48.643	48.678	48.713	48.747	48.782	48.817	48.852	48.887	**1190**
1200	48.887	48.921	48.956	48.991	49.026	49.060	49.095	49.129	49.164	49.199	49.233	**1200**
1210	49.233	49.268	49.302	49.337	49.371	49.406	49.440	49.475	49.509	49.543	49.578	**1210**
1220	49.578	49.612	49.646	49.681	49.715	49.749	49.783	49.818	49.852	49.886	49.920	**1220**
1230	49.920	49.954	49.988	50.023	50.057	50.091	50.125	50.159	50.193	50.227	50.261	**1230**
1240	50.261	50.294	50.328	50.362	50.396	50.430	50.464	50.498	50.531	50.565	50.599	**1240**
1250	50.599	50.632	50.666	50.700	50.734	50.767	50.801	50.834	50.868	50.901	50.935	**1250**
1260	50.935	50.968	51.002	51.035	51.069	51.102	51.136	51.169	51.202	51.236	51.269	**1260**
1270	51.269	51.302	51.336	51.369	51.402	51.435	51.468	51.502	51.535	51.568	51.601	**1270**
1280	51.601	51.634	51.667	51.700	51.733	51.766	51.799	51.832	51.865	51.898	51.931	**1280**
1290	51.931	51.963	51.996	52.029	52.062	52.095	52.127	52.160	52.193	52.226	52.258	**1290**
1300	52.258	52.291	52.323	52.356	52.389	52.421	52.454	52.486	52.519	52.551	52.584	**1300**
1310	52.584	52.616	52.648	52.681	52.713	52.745	52.778	52.810	52.842	52.875	52.907	**1310**
1320	52.907	52.939	52.971	53.003	53.035	53.067	53.100	53.132	53.164	53.196	53.228	**1320**
1330	53.228	53.260	53.292	53.324	53.355	53.387	53.419	53.451	53.483	53.515	53.546	**1330**
1340	53.546	53.578	53.610	53.641	53.673	53.705	53.736	53.768	53.800	53.831	53.863	**1340**
1350	53.863	53.894	53.926	53.957	53.989	54.020	54.051	54.083	54.114	54.145	54.177	**1350**
1360	54.177	54.208	54.239	54.270	54.302	54.333	54.364	54.395	54.426	54.457	54.488	**1360**
1370	54.488	54.519	54.550	54.581	54.612	54.643	54.674	54.705	54.736	54.767	54.798	**1370**
1380	54.798	54.828	54.859	54.890	54.921	54.951	54.982	55.013	55.043	55.074	55.104	**1380**
1390	55.104	55.135	55.165	55.196	55.226	55.257						**1390**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinel II thermocouples.

0 °C to 746.6 °C

$c_0 = 0.000\,000\,0$
$c_1 = 2.981\,971\,6 \times 10^{-02}$
$c_2 = 3.517\,515\,2 \times 10^{-05}$
$c_3 = -3.487\,842\,8 \times 10^{-08}$
$c_4 = 1.485\,132\,7 \times 10^{-11}$
$c_5 = -3.637\,546\,7 \times 10^{-15}$

746.6 °C to 1395 °C

$c_0 = -8.962\,183\,8$
$c_1 = 8.537\,720\,0 \times 10^{-02}$
$c_2 = -1.057\,023\,3 \times 10^{-04}$
$c_3 = 1.542\,493\,7 \times 10^{-07}$
$c_4 = -1.285\,511\,5 \times 10^{-10}$
$c_5 = 5.443\,876\,0 \times 10^{-14}$
$c_6 = -9.321\,126\,9 \times 10^{-18}$

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
30			0.000	0.017	0.033	0.050	0.066	0.083	0.100	0.116	0.133	30
40	0.133	0.150	0.167	0.184	0.200	0.217	0.234	0.251	0.268	0.285	0.302	40
50	0.302	0.319	0.336	0.353	0.370	0.387	0.404	0.421	0.438	0.455	0.472	50
60	0.472	0.489	0.507	0.524	0.541	0.558	0.576	0.593	0.610	0.628	0.645	60
70	0.645	0.662	0.680	0.697	0.715	0.732	0.749	0.767	0.784	0.802	0.820	70
80	0.820	0.837	0.855	0.872	0.890	0.908	0.925	0.943	0.961	0.978	0.996	80
90	0.996	1.014	1.032	1.050	1.067	1.085	1.103	1.121	1.139	1.157	1.175	90
100	1.175	1.193	1.211	1.229	1.247	1.265	1.283	1.301	1.319	1.337	1.355	100
110	1.355	1.374	1.392	1.410	1.428	1.446	1.465	1.483	1.501	1.520	1.538	110
120	1.538	1.556	1.575	1.593	1.611	1.630	1.648	1.667	1.685	1.704	1.722	120
130	1.722	1.741	1.759	1.778	1.797	1.815	1.834	1.852	1.871	1.890	1.908	130
140	1.908	1.927	1.946	1.965	1.983	2.002	2.021	2.040	2.059	2.078	2.096	140
150	2.096	2.115	2.134	2.153	2.172	2.191	2.210	2.229	2.248	2.267	2.286	150
160	2.286	2.305	2.324	2.343	2.363	2.382	2.401	2.420	2.439	2.458	2.478	160
170	2.478	2.497	2.516	2.536	2.555	2.574	2.593	2.613	2.632	2.652	2.671	170
180	2.671	2.690	2.710	2.729	2.749	2.768	2.788	2.807	2.827	2.846	2.866	180
190	2.866	2.885	2.905	2.925	2.944	2.964	2.984	3.003	3.023	3.043	3.062	190
200	3.062	3.082	3.102	3.122	3.141	3.161	3.181	3.201	3.221	3.241	3.260	200
210	3.260	3.280	3.300	3.320	3.340	3.360	3.380	3.400	3.420	3.440	3.460	210
220	3.460	3.480	3.500	3.520	3.541	3.561	3.581	3.601	3.621	3.641	3.661	220
230	3.661	3.682	3.702	3.722	3.742	3.763	3.783	3.803	3.824	3.844	3.864	230
240	3.864	3.885	3.905	3.925	3.946	3.966	3.987	4.007	4.028	4.048	4.069	240
250	4.069	4.089	4.110	4.130	4.151	4.171	4.192	4.212	4.233	4.254	4.274	250
260	4.274	4.295	4.316	4.336	4.357	4.378	4.399	4.419	4.440	4.461	4.482	260
270	4.482	4.502	4.523	4.544	4.565	4.586	4.607	4.627	4.648	4.669	4.690	270
280	4.690	4.711	4.732	4.753	4.774	4.795	4.816	4.837	4.858	4.879	4.900	280
290	4.900	4.921	4.942	4.963	4.985	5.006	5.027	5.048	5.069	5.090	5.111	290
300	5.111	5.133	5.154	5.175	5.196	5.218	5.239	5.260	5.282	5.303	5.324	300
310	5.324	5.346	5.367	5.388	5.410	5.431	5.452	5.474	5.495	5.517	5.538	310
320	5.538	5.560	5.581	5.603	5.624	5.646	5.667	5.689	5.710	5.732	5.753	320
330	5.753	5.775	5.797	5.818	5.840	5.861	5.883	5.905	5.926	5.948	5.970	330
340	5.970	5.992	6.013	6.035	6.057	6.079	6.100	6.122	6.144	6.166	6.188	340
350	6.188	6.209	6.231	6.253	6.275	6.297	6.319	6.341	6.363	6.384	6.406	350
360	6.406	6.428	6.450	6.472	6.494	6.516	6.538	6.560	6.582	6.604	6.626	360
370	6.626	6.649	6.671	6.693	6.715	6.737	6.759	6.781	6.803	6.825	6.848	370
380	6.848	6.870	6.892	6.914	6.936	6.959	6.981	7.003	7.025	7.048	7.070	380
390	7.070	7.092	7.115	7.137	7.159	7.181	7.204	7.226	7.249	7.271	7.293	390
400	7.293	7.316	7.338	7.361	7.383	7.405	7.428	7.450	7.473	7.495	7.518	400
410	7.518	7.540	7.563	7.585	7.608	7.630	7.653	7.675	7.698	7.721	7.743	410
420	7.743	7.766	7.788	7.811	7.834	7.856	7.879	7.902	7.924	7.947	7.970	420
430	7.970	7.992	8.015	8.038	8.061	8.083	8.106	8.129	8.152	8.174	8.197	430
440	8.197	8.220	8.243	8.266	8.288	8.311	8.334	8.357	8.380	8.403	8.426	440
450	8.426	8.449	8.471	8.494	8.517	8.540	8.563	8.586	8.609	8.632	8.655	450
460	8.655	8.678	8.701	8.724	8.747	8.770	8.793	8.816	8.839	8.862	8.885	460
470	8.885	8.908	8.931	8.955	8.978	9.001	9.024	9.047	9.070	9.093	9.117	470
480	9.117	9.140	9.163	9.186	9.209	9.232	9.256	9.279	9.302	9.325	9.349	480
490	9.349	9.372	9.395	9.418	9.442	9.465	9.488	9.512	9.535	9.558	9.581	490
500	9.581	9.605	9.628	9.652	9.675	9.698	9.722	9.745	9.768	9.792	9.815	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
500	9.581	9.605	9.628	9.652	9.675	9.698	9.722	9.745	9.768	9.792	9.815	500
510	9.815	9.839	9.862	9.885	9.909	9.932	9.956	9.979	10.003	10.026	10.050	510
520	10.050	10.073	10.097	10.120	10.144	10.167	10.191	10.214	10.238	10.262	10.285	520
530	10.285	10.309	10.332	10.356	10.379	10.403	10.427	10.450	10.474	10.498	10.521	530
540	10.521	10.545	10.568	10.592	10.616	10.639	10.663	10.687	10.711	10.734	10.758	540
550	10.758	10.782	10.805	10.829	10.853	10.877	10.900	10.924	10.948	10.972	10.995	550
560	10.995	11.019	11.043	11.067	11.091	11.114	11.138	11.162	11.186	11.210	11.234	560
570	11.234	11.258	11.281	11.305	11.329	11.353	11.377	11.401	11.425	11.449	11.473	570
580	11.473	11.497	11.520	11.544	11.568	11.592	11.616	11.640	11.664	11.688	11.712	580
590	11.712	11.736	11.760	11.784	11.808	11.832	11.856	11.880	11.904	11.928	11.952	590
600	11.952	11.976	12.000	12.024	12.049	12.073	12.097	12.121	12.145	12.169	12.193	600
610	12.193	12.217	12.241	12.265	12.290	12.314	12.338	12.362	12.386	12.410	12.434	610
620	12.434	12.459	12.483	12.507	12.531	12.555	12.580	12.604	12.628	12.652	12.676	620
630	12.676	12.701	12.725	12.749	12.773	12.798	12.822	12.846	12.870	12.895	12.919	630
640	12.919	12.943	12.967	12.992	13.016	13.040	13.065	13.089	13.113	13.138	13.162	640
650	13.162	13.186	13.211	13.235	13.259	13.284	13.308	13.332	13.357	13.381	13.405	650
660	13.405	13.430	13.454	13.479	13.503	13.527	13.552	13.576	13.601	13.625	13.649	660
670	13.649	13.674	13.698	13.723	13.747	13.772	13.796	13.821	13.845	13.869	13.894	670
680	13.894	13.918	13.943	13.967	13.992	14.016	14.041	14.065	14.090	14.114	14.139	680
690	14.139	14.163	14.188	14.212	14.237	14.262	14.286	14.311	14.335	14.360	14.384	690
700	14.384	14.409	14.433	14.458	14.483	14.507	14.532	14.556	14.581	14.606	14.630	700
710	14.630	14.655	14.679	14.704	14.729	14.753	14.778	14.802	14.827	14.852	14.876	710
720	14.876	14.901	14.926	14.950	14.975	15.000	15.024	15.049	15.074	15.098	15.123	720
730	15.123	15.148	15.172	15.197	15.222	15.246	15.271	15.296	15.320	15.345	15.370	730
740	15.370	15.395	15.419	15.444	15.469	15.493	15.518	15.543	15.568	15.592	15.617	740
750	15.617	15.642	15.667	15.691	15.716	15.741	15.766	15.790	15.815	15.840	15.865	750
760	15.865	15.890	15.914	15.939	15.964	15.989	16.013	16.038	16.063	16.088	16.113	760
770	16.113	16.137	16.162	16.187	16.212	16.237	16.262	16.286	16.311	16.336	16.361	770
780	16.361	16.386	16.411	16.435	16.460	16.485	16.510	16.535	16.560	16.585	16.609	780
790	16.609	16.634	16.659	16.684	16.709	16.734	16.759	16.784	16.808	16.833	16.858	790
800	16.858	16.883	16.908	16.933	16.958	16.983	17.008	17.032	17.057	17.082	17.107	800
810	17.107	17.132	17.157	17.182	17.207	17.232	17.257	17.282	17.307	17.331	17.356	810
820	17.356	17.381	17.406	17.431	17.456	17.481	17.506	17.531	17.556	17.581	17.606	820
830	17.606	17.631	17.656	17.681	17.706	17.731	17.756	17.781	17.806	17.830	17.855	830
840	17.855	17.880	17.905	17.930	17.955	17.980	18.005	18.030	18.055	18.080	18.105	840
850	18.105	18.130	18.155	18.180	18.205	18.230	18.255	18.280	18.305	18.330	18.355	850
860	18.355	18.380	18.405	18.430	18.455	18.480	18.505	18.530	18.555	18.580	18.605	860
870	18.605	18.630	18.655	18.680	18.705	18.730	18.755	18.781	18.806	18.831	18.856	870
880	18.856	18.881	18.906	18.931	18.956	18.981	19.006	19.031	19.056	19.081	19.106	880
890	19.106	19.131	19.156	19.181	19.206	19.231	19.256	19.281	19.306	19.331	19.356	890
900	19.356	19.381	19.407	19.432	19.457	19.482	19.507	19.532	19.557	19.582	19.607	900
910	19.607	19.632	19.657	19.682	19.707	19.732	19.757	19.782	19.807	19.833	19.858	910
920	19.858	19.883	19.908	19.933	19.958	19.983	20.008	20.033	20.058	20.083	20.108	920
930	20.108	20.133	20.158	20.183	20.209	20.234	20.259	20.284	20.309	20.334	20.359	930
940	20.359	20.384	20.409	20.434	20.459	20.484	20.509	20.534	20.560	20.585	20.610	940
950	20.610	20.635	20.660	20.685	20.710	20.735	20.760	20.785	20.810	20.835	20.860	950
960	20.860	20.885	20.911	20.936	20.961	20.986	21.011	21.036	21.061	21.086	21.111	960
970	21.111	21.136	21.161	21.186	21.211	21.237	21.262	21.287	21.312	21.337	21.362	970
980	21.362	21.387	21.412	21.437	21.462	21.487	21.512	21.537	21.562	21.587	21.613	980
990	21.613	21.638	21.663	21.688	21.713	21.738	21.763	21.788	21.813	21.838	21.863	990
1000	21.863	21.888	21.913	21.938	21.963	21.988	22.014	22.039	22.064	22.089	22.114	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	21.863	21.888	21.913	21.938	21.963	21.988	22.014	22.039	22.064	22.089	22.114	1000
1010	22.114	22.139	22.164	22.189	22.214	22.239	22.264	22.289	22.314	22.339	22.364	1010
1020	22.364	22.389	22.414	22.439	22.464	22.489	22.515	22.540	22.565	22.590	22.615	1020
1030	22.615	22.640	22.665	22.690	22.715	22.740	22.765	22.790	22.815	22.840	22.865	1030
1040	22.865	22.890	22.915	22.940	22.965	22.990	23.015	23.040	23.065	23.090	23.115	1040
1050	23.115	23.140	23.165	23.190	23.215	23.240	23.265	23.290	23.315	23.340	23.365	1050
1060	23.365	23.390	23.415	23.440	23.465	23.490	23.515	23.540	23.565	23.590	23.615	1060
1070	23.615	23.640	23.665	23.690	23.715	23.740	23.765	23.790	23.815	23.840	23.865	1070
1080	23.865	23.890	23.915	23.940	23.965	23.990	24.015	24.040	24.065	24.090	24.115	1080
1090	24.115	24.139	24.164	24.189	24.214	24.239	24.264	24.289	24.314	24.339	24.364	1090
1100	24.364	24.389	24.414	24.439	24.464	24.489	24.514	24.538	24.563	24.588	24.613	1100
1110	24.613	24.638	24.663	24.688	24.713	24.738	24.763	24.788	24.812	24.837	24.862	1110
1120	24.862	24.887	24.912	24.937	24.962	24.987	25.012	25.036	25.061	25.086	25.111	1120
1130	25.111	25.136	25.161	25.186	25.210	25.235	25.260	25.285	25.310	25.335	25.360	1130
1140	25.360	25.384	25.409	25.434	25.459	25.484	25.509	25.533	25.558	25.583	25.608	1140
1150	25.608	25.633	25.658	25.682	25.707	25.732	25.757	25.782	25.806	25.831	25.856	1150
1160	25.856	25.881	25.906	25.930	25.955	25.980	26.005	26.029	26.054	26.079	26.104	1160
1170	26.104	26.129	26.153	26.178	26.203	26.228	26.252	26.277	26.302	26.327	26.351	1170
1180	26.351	26.376	26.401	26.426	26.450	26.475	26.500	26.524	26.549	26.574	26.599	1180
1190	26.599	26.623	26.648	26.673	26.697	26.722	26.747	26.771	26.796	26.821	26.845	1190
1200	26.845	26.870	26.895	26.919	26.944	26.969	26.993	27.018	27.043	27.067	27.092	1200
1210	27.092	27.117	27.141	27.166	27.191	27.215	27.240	27.265	27.289	27.314	27.338	1210
1220	27.338	27.363	27.388	27.412	27.437	27.461	27.486	27.511	27.535	27.560	27.584	1220
1230	27.584	27.609	27.633	27.658	27.683	27.707	27.732	27.756	27.781	27.805	27.830	1230
1240	27.830	27.854	27.879	27.903	27.928	27.953	27.977	28.002	28.026	28.051	28.075	1240
1250	28.075	28.100	28.124	28.149	28.173	28.198	28.222	28.247	28.271	28.295	28.320	1250
1260	28.320	28.344	28.369	28.393	28.418	28.442	28.467	28.491	28.516	28.540	28.564	1260
1270	28.564	28.589	28.613	28.638	28.662	28.686	28.711	28.735	28.760	28.784	28.808	1270
1280	28.808	28.833	28.857	28.882	28.906	28.930	28.955	28.979	29.003	29.028	29.052	1280
1290	29.052	29.076	29.101	29.125	29.149	29.174	29.198	29.222	29.247	29.271	29.295	1290
1300	29.295	29.320	29.344	29.368	29.392	29.417	29.441	29.465	29.490	29.514	29.538	1300
1310	29.538	29.562	29.587	29.611	29.635	29.659	29.684	29.708	29.732	29.756	29.780	1310
1320	29.780	29.805	29.829	29.853	29.877	29.901	29.926	29.950	29.974	29.998	30.022	1320
1330	30.022	30.046	30.071	30.095	30.119	30.143	30.167	30.191	30.215	30.240	30.264	1330
1340	30.264	30.288	30.312	30.336	30.360	30.384	30.408	30.432	30.457	30.481	30.505	1340
1350	30.505	30.529	30.553	30.577	30.601	30.625	30.649	30.673	30.697	30.721	30.745	1350
1360	30.745	30.769	30.793	30.817	30.841	30.865	30.889	30.913	30.937	30.961	30.985	1360
1370	30.985	31.009	31.033	31.057	31.081	31.105	31.129	31.153	31.177	31.201	31.225	1370
1380	31.225	31.248	31.272	31.296	31.320	31.344	31.368	31.392	31.416	31.440	31.463	1380
1390	31.463	31.487	31.511	31.535	31.559	31.583	31.607	31.631	31.654	31.678	31.702	1390
1400	31.702	31.726	31.750	31.774	31.797	31.821	31.845	31.869	31.893	31.916	31.940	1400
1410	31.940	31.964	31.988	32.011	32.035	32.059	32.083	32.107	32.130	32.154	32.178	1410
1420	32.178	32.202	32.225	32.249	32.273	32.296	32.320	32.344	32.368	32.391	32.415	1420
1430	32.415	32.439	32.462	32.486	32.510	32.533	32.557	32.581	32.604	32.628	32.652	1430
1440	32.652	32.675	32.699	32.723	32.746	32.770	32.794	32.817	32.841	32.864	32.888	1440
1450	32.888	32.912	32.935	32.959	32.982	33.006	33.030	33.053	33.077	33.100	33.124	1450
1460	33.124	33.147	33.171	33.195	33.218	33.242	33.265	33.289	33.312	33.336	33.359	1460
1470	33.359	33.383	33.406	33.430	33.453	33.477	33.500	33.524	33.547	33.571	33.594	1470
1480	33.594	33.618	33.641	33.664	33.688	33.711	33.735	33.758	33.782	33.805	33.828	1480
1490	33.828	33.852	33.875	33.899	33.922	33.946	33.969	33.992	34.016	34.039	34.062	1490
1500	34.062	34.086	34.109	34.132	34.156	34.179	34.203	34.226	34.249	34.273	34.296	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1500	34.062	34.086	34.109	34.132	34.156	34.179	34.203	34.226	34.249	34.273	34.296	**1500**
1510	34.296	34.319	34.342	34.366	34.389	34.412	34.436	34.459	34.482	34.506	34.529	**1510**
1520	34.529	34.552	34.575	34.599	34.622	34.645	34.668	34.692	34.715	34.738	34.761	**1520**
1530	34.761	34.784	34.808	34.831	34.854	34.877	34.900	34.924	34.947	34.970	34.993	**1530**
1540	34.993	35.016	35.040	35.063	35.086	35.109	35.132	35.155	35.178	35.202	35.225	**1540**
1550	35.225	35.248	35.271	35.294	35.317	35.340	35.363	35.386	35.409	35.433	35.456	**1550**
1560	35.456	35.479	35.502	35.525	35.548	35.571	35.594	35.617	35.640	35.663	35.686	**1560**
1570	35.686	35.709	35.732	35.755	35.778	35.801	35.824	35.847	35.870	35.893	35.916	**1570**
1580	35.916	35.939	35.962	35.985	36.008	36.031	36.054	36.077	36.099	36.122	36.145	**1580**
1590	36.145	36.168	36.191	36.214	36.237	36.260	36.283	36.306	36.328	36.351	36.374	**1590**
1600	36.374	36.397	36.420	36.443	36.466	36.488	36.511	36.534	36.557	36.580	36.603	**1600**
1610	36.603	36.625	36.648	36.671	36.694	36.716	36.739	36.762	36.785	36.808	36.830	**1610**
1620	36.830	36.853	36.876	36.899	36.921	36.944	36.967	36.989	37.012	37.035	37.058	**1620**
1630	37.058	37.080	37.103	37.126	37.148	37.171	37.194	37.216	37.239	37.262	37.284	**1630**
1640	37.284	37.307	37.330	37.352	37.375	37.398	37.420	37.443	37.465	37.488	37.511	**1640**
1650	37.511	37.533	37.556	37.578	37.601	37.623	37.646	37.669	37.691	37.714	37.736	**1650**
1660	37.736	37.759	37.781	37.804	37.826	37.849	37.871	37.894	37.916	37.939	37.961	**1660**
1670	37.961	37.984	38.006	38.029	38.051	38.074	38.096	38.119	38.141	38.163	38.186	**1670**
1680	38.186	38.208	38.231	38.253	38.275	38.298	38.320	38.343	38.365	38.387	38.410	**1680**
1690	38.410	38.432	38.455	38.477	38.499	38.522	38.544	38.566	38.589	38.611	38.633	**1690**
1700	38.633	38.656	38.678	38.700	38.722	38.745	38.767	38.789	38.812	38.834	38.856	**1700**
1710	38.856	38.878	38.901	38.923	38.945	38.967	38.990	39.012	39.034	39.056	39.078	**1710**
1720	39.078	39.101	39.123	39.145	39.167	39.189	39.211	39.234	39.256	39.278	39.300	**1720**
1730	39.300	39.322	39.344	39.367	39.389	39.411	39.433	39.455	39.477	39.499	39.521	**1730**
1740	39.521	39.543	39.565	39.588	39.610	39.632	39.654	39.676	39.698	39.720	39.742	**1740**
1750	39.742	39.764	39.786	39.808	39.830	39.852	39.874	39.896	39.918	39.940	39.962	**1750**
1760	39.962	39.984	40.006	40.028	40.050	40.072	40.094	40.116	40.137	40.159	40.181	**1760**
1770	40.181	40.203	40.225	40.247	40.269	40.291	40.313	40.335	40.356	40.378	40.400	**1770**
1780	40.400	40.422	40.444	40.466	40.487	40.509	40.531	40.553	40.575	40.597	40.618	**1780**
1790	40.618	40.640	40.662	40.684	40.705	40.727	40.749	40.771	40.793	40.814	40.836	**1790**
1800	40.836	40.858	40.879	40.901	40.923	40.945	40.966	40.988	41.010	41.031	41.053	**1800**
1810	41.053	41.075	41.096	41.118	41.140	41.161	41.183	41.205	41.226	41.248	41.270	**1810**
1820	41.270	41.291	41.313	41.334	41.356	41.378	41.399	41.421	41.442	41.464	41.485	**1820**
1830	41.485	41.507	41.529	41.550	41.572	41.593	41.615	41.636	41.658	41.679	41.701	**1830**
1840	41.701	41.722	41.744	41.765	41.787	41.808	41.830	41.851	41.873	41.894	41.915	**1840**
1850	41.915	41.937	41.958	41.980	42.001	42.023	42.044	42.065	42.087	42.108	42.129	**1850**
1860	42.129	42.151	42.172	42.194	42.215	42.236	42.258	42.279	42.300	42.322	42.343	**1860**
1870	42.343	42.364	42.386	42.407	42.428	42.449	42.471	42.492	42.513	42.535	42.556	**1870**
1880	42.556	42.577	42.598	42.620	42.641	42.662	42.683	42.704	42.726	42.747	42.768	**1880**
1890	42.768	42.789	42.810	42.832	42.853	42.874	42.895	42.916	42.937	42.959	42.980	**1890**
1900	42.980	43.001	43.022	43.043	43.064	43.085	43.106	43.128	43.149	43.170	43.191	**1900**
1910	43.191	43.212	43.233	43.254	43.275	43.296	43.317	43.338	43.359	43.380	43.401	**1910**
1920	43.401	43.422	43.443	43.464	43.485	43.506	43.527	43.548	43.569	43.590	43.611	**1920**
1930	43.611	43.632	43.653	43.674	43.695	43.716	43.737	43.758	43.778	43.799	43.820	**1930**
1940	43.820	43.841	43.862	43.883	43.904	43.925	43.945	43.966	43.987	44.008	44.029	**1940**
1950	44.029	44.050	44.070	44.091	44.112	44.133	44.154	44.175	44.195	44.216	44.237	**1950**
1960	44.237	44.258	44.278	44.299	44.320	44.341	44.361	44.382	44.403	44.423	44.444	**1960**
1970	44.444	44.465	44.486	44.506	44.527	44.548	44.568	44.589	44.610	44.630	44.651	**1970**
1980	44.651	44.672	44.692	44.713	44.733	44.754	44.775	44.795	44.816	44.836	44.857	**1980**
1990	44.857	44.878	44.898	44.919	44.939	44.960	44.980	45.001	45.021	45.042	45.063	**1990**
2000	45.063	45.083	45.104	45.124	45.145	45.165	45.186	45.206	45.226	45.247	45.267	2000
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	45.063	45.083	45.104	45.124	45.145	45.165	45.186	45.206	45.226	45.247	45.267	**2000**
2010	45.267	45.288	45.308	45.329	45.349	45.370	45.390	45.410	45.431	45.451	45.472	**2010**
2020	45.472	45.492	45.512	45.533	45.553	45.574	45.594	45.614	45.635	45.655	45.675	**2020**
2030	45.675	45.696	45.716	45.736	45.757	45.777	45.797	45.817	45.838	45.858	45.878	**2030**
2040	45.878	45.899	45.919	45.939	45.959	45.980	46.000	46.020	46.040	46.060	46.081	**2040**
2050	46.081	46.101	46.121	46.141	46.161	46.182	46.202	46.222	46.242	46.262	46.282	**2050**
2060	46.282	46.303	46.323	46.343	46.363	46.383	46.403	46.423	46.443	46.463	46.484	**2060**
2070	46.484	46.504	46.524	46.544	46.564	46.584	46.604	46.624	46.644	46.664	46.684	**2070**
2080	46.684	46.704	46.724	46.744	46.764	46.784	46.804	46.824	46.844	46.864	46.884	**2080**
2090	46.884	46.904	46.924	46.944	46.964	46.984	47.004	47.023	47.043	47.063	47.083	**2090**
2100	47.083	47.103	47.123	47.143	47.163	47.183	47.202	47.222	47.242	47.262	47.282	**2100**
2110	47.282	47.302	47.321	47.341	47.361	47.381	47.401	47.420	47.440	47.460	47.480	**2110**
2120	47.480	47.500	47.519	47.539	47.559	47.579	47.598	47.618	47.638	47.657	47.677	**2120**
2130	47.677	47.697	47.717	47.736	47.756	47.776	47.795	47.815	47.835	47.854	47.874	**2130**
2140	47.874	47.894	47.913	47.933	47.952	47.972	47.992	48.011	48.031	48.050	48.070	**2140**
2150	48.070	48.090	48.109	48.129	48.148	48.168	48.187	48.207	48.226	48.246	48.265	**2150**
2160	48.265	48.285	48.304	48.324	48.343	48.363	48.382	48.402	48.421	48.441	48.460	**2160**
2170	48.460	48.480	48.499	48.519	48.538	48.557	48.577	48.596	48.616	48.635	48.654	**2170**
2180	48.654	48.674	48.693	48.713	48.732	48.751	48.771	48.790	48.809	48.829	48.848	**2180**
2190	48.848	48.867	48.887	48.906	48.925	48.945	48.964	48.983	49.002	49.022	49.041	**2190**
2200	49.041	49.060	49.079	49.099	49.118	49.137	49.156	49.176	49.195	49.214	49.233	**2200**
2210	49.233	49.252	49.272	49.291	49.310	49.329	49.348	49.367	49.387	49.406	49.425	**2210**
2220	49.425	49.444	49.463	49.482	49.501	49.520	49.540	49.559	49.578	49.597	49.616	**2220**
2230	49.616	49.635	49.654	49.673	49.692	49.711	49.730	49.749	49.768	49.787	49.806	**2230**
2240	49.806	49.825	49.844	49.863	49.882	49.901	49.920	49.939	49.958	49.977	49.996	**2240**
2250	49.996	50.015	50.034	50.053	50.072	50.091	50.110	50.128	50.147	50.166	50.185	**2250**
2260	50.185	50.204	50.223	50.242	50.261	50.279	50.298	50.317	50.336	50.355	50.374	**2260**
2270	50.374	50.392	50.411	50.430	50.449	50.467	50.486	50.505	50.524	50.543	50.561	**2270**
2280	50.561	50.580	50.599	50.618	50.636	50.655	50.674	50.692	50.711	50.730	50.748	**2280**
2290	50.748	50.767	50.786	50.804	50.823	50.842	50.860	50.879	50.898	50.916	50.935	**2290**
2300	50.935	50.954	50.972	50.991	51.009	51.028	51.047	51.065	51.084	51.102	51.121	**2300**
2310	51.121	51.139	51.158	51.176	51.195	51.213	51.232	51.250	51.269	51.287	51.306	**2310**
2320	51.306	51.324	51.343	51.361	51.380	51.398	51.417	51.435	51.454	51.472	51.490	**2320**
2330	51.490	51.509	51.527	51.546	51.564	51.582	51.601	51.619	51.638	51.656	51.674	**2330**
2340	51.674	51.693	51.711	51.729	51.748	51.766	51.784	51.803	51.821	51.839	51.858	**2340**
2350	51.858	51.876	51.894	51.912	51.931	51.949	51.967	51.985	52.004	52.022	52.040	**2350**
2360	52.040	52.058	52.076	52.095	52.113	52.131	52.149	52.167	52.186	52.204	52.222	**2360**
2370	52.222	52.240	52.258	52.276	52.294	52.313	52.331	52.349	52.367	52.385	52.403	**2370**
2380	52.403	52.421	52.439	52.457	52.475	52.493	52.511	52.529	52.548	52.566	52.584	**2380**
2390	52.584	52.602	52.620	52.638	52.656	52.674	52.692	52.710	52.727	52.745	52.763	**2390**
2400	52.763	52.781	52.799	52.817	52.835	52.853	52.871	52.889	52.907	52.925	52.943	**2400**
2410	52.943	52.960	52.978	52.996	53.014	53.032	53.050	53.067	53.085	53.103	53.121	**2410**
2420	53.121	53.139	53.157	53.174	53.192	53.210	53.228	53.245	53.263	53.281	53.299	**2420**
2430	53.299	53.316	53.334	53.352	53.370	53.387	53.405	53.423	53.440	53.458	53.476	**2430**
2440	53.476	53.493	53.511	53.529	53.546	53.564	53.582	53.599	53.617	53.634	53.652	**2440**
2450	53.652	53.670	53.687	53.705	53.722	53.740	53.757	53.775	53.793	53.810	53.828	**2450**
2460	53.828	53.845	53.863	53.880	53.898	53.915	53.933	53.950	53.968	53.985	54.003	**2460**
2470	54.003	54.020	54.037	54.055	54.072	54.090	54.107	54.125	54.142	54.159	54.177	**2470**
2480	54.177	54.194	54.211	54.229	54.246	54.264	54.281	54.298	54.316	54.333	54.350	**2480**
2490	54.350	54.367	54.385	54.402	54.419	54.437	54.454	54.471	54.488	54.506	54.523	**2490**
2500	54.523	54.540	54.557	54.574	54.592	54.609	54.626	54.643	54.660	54.678	54.695	2500
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 4 Platinel II thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
					Thermoelectric Voltage in Millivolts							
2500	54.523	54.540	54.557	54.574	54.592	54.609	54.626	54.643	54.660	54.678	54.695	**2500**
2510	54.695	54.712	54.729	54.746	54.763	54.780	54.798	54.815	54.832	54.849	54.866	**2510**
2520	54.866	54.883	54.900	54.917	54.934	54.951	54.968	54.985	55.002	55.019	55.036	**2520**
2530	55.036	55.053	55.070	55.087	55.104	55.121	55.138	55.155	55.172	55.189	55.206	**2530**
2540	55.206	55.223	55.240	55.257								**2540**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinel II thermocouples.

32 °F to 1375.88 °F

$c_0 = -5.188\ 137\ 362 \times 10^{-01}$
$c_1 = 1.585\ 313\ 235 \times 10^{-02}$
$c_2 = 1.143\ 941\ 401 \times 10^{-05}$
$c_3 = -6.163\ 583\ 517 \times 10^{-09}$
$c_4 = 1.445\ 536\ 537 \times 10^{-12}$
$c_5 = -1.925\ 067\ 920 \times 10^{-16}$

1375.88 °F to 2543 °F

$c_0 = -1.051\ 428\ 746 \times 10^{01}$
$c_1 = 4.960\ 259\ 574 \times 10^{-02}$
$c_2 = -3.523\ 944\ 748 \times 10^{-05}$
$c_3 = 2.804\ 593\ 445 \times 10^{-08}$
$c_4 = -1.271\ 093\ 742 \times 10^{-11}$
$c_5 = 2.933\ 634\ 241 \times 10^{-15}$
$c_6 = -2.740\ 522\ 611 \times 10^{-19}$

TABLE 5 K (Positive) versus Gold–0.07 % Iron thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°C
					Thermoelectric Voltage in Millivolts							
−270	−5.279	−5.290	−5.300	−5.308								**−270**
−260	−5.130	−5.147	−5.163	−5.179	−5.195	−5.211	−5.226	−5.241	−5.254	−5.267	−5.279	**−260**
−250	−4.961	−4.978	−4.995	−5.011	−5.028	−5.045	−5.062	−5.079	−5.096	−5.113	−5.130	**−250**
−240	−4.794	−4.811	−4.827	−4.844	−4.860	−4.877	−4.894	−4.910	−4.927	−4.944	−4.961	**−240**
−230	−4.630	−4.646	−4.663	−4.679	−4.696	−4.712	−4.728	−4.745	−4.761	−4.778	−4.794	**−230**
−220	−4.463	−4.480	−4.497	−4.513	−4.530	−4.547	−4.563	−4.580	−4.596	−4.613	−4.630	**−220**
−210	−4.292	−4.310	−4.327	−4.344	−4.361	−4.378	−4.395	−4.412	−4.429	−4.446	−4.463	**−210**
−200	−4.117	−4.135	−4.153	−4.170	−4.188	−4.205	−4.223	−4.240	−4.258	−4.275	−4.292	**−200**
−190	−3.938	−3.956	−3.974	−3.992	−4.010	−4.028	−4.046	−4.064	−4.082	−4.100	−4.117	**−190**
−180	−3.755	−3.773	−3.792	−3.810	−3.829	−3.847	−3.865	−3.884	−3.902	−3.920	−3.938	**−180**
−170	−3.568	−3.586	−3.605	−3.624	−3.643	−3.662	−3.680	−3.699	−3.718	−3.736	−3.755	**−170**
−160	−3.377	−3.396	−3.415	−3.434	−3.453	−3.472	−3.492	−3.511	−3.530	−3.549	−3.568	**−160**
−150	−3.182	−3.202	−3.221	−3.241	−3.260	−3.280	−3.299	−3.318	−3.338	−3.357	−3.377	**−150**
−140	−2.984	−3.004	−3.024	−3.044	−3.064	−3.084	−3.103	−3.123	−3.143	−3.162	−3.182	**−140**
−130	−2.784	−2.804	−2.824	−2.844	−2.864	−2.885	−2.905	−2.925	−2.945	−2.964	−2.984	**−130**
−120	−2.581	−2.601	−2.622	−2.642	−2.662	−2.683	−2.703	−2.723	−2.744	−2.764	−2.784	**−120**
−110	−2.375	−2.396	−2.417	−2.437	−2.458	−2.478	−2.499	−2.520	−2.540	−2.560	−2.581	**−110**
−100	−2.168	−2.189	−2.209	−2.230	−2.251	−2.272	−2.293	−2.313	−2.334	−2.355	−2.375	**−100**
−90	−1.958	−1.979	−2.000	−2.021	−2.042	−2.063	−2.084	−2.105	−2.126	−2.147	−2.168	**−90**
−80	−1.746	−1.767	−1.789	−1.810	−1.831	−1.852	−1.873	−1.895	−1.916	−1.937	−1.958	**−80**
−70	−1.533	−1.554	−1.575	−1.597	−1.618	−1.640	−1.661	−1.682	−1.704	−1.725	−1.746	**−70**
−60	−1.317	−1.339	−1.361	−1.382	−1.404	−1.425	−1.447	−1.468	−1.490	−1.511	−1.533	**−60**
−50	−1.101	−1.122	−1.144	−1.166	−1.188	−1.209	−1.231	−1.253	−1.274	−1.296	−1.317	**−50**
−40	−0.883	−0.904	−0.926	−0.948	−0.970	−0.992	−1.014	−1.035	−1.057	−1.079	−1.101	**−40**
−30	−0.663	−0.685	−0.707	−0.729	−0.751	−0.773	−0.795	−0.817	−0.839	−0.861	−0.883	**−30**
−20	−0.443	−0.465	−0.487	−0.510	−0.532	−0.554	−0.576	−0.598	−0.620	−0.642	−0.663	**−20**
−10	−0.222	−0.244	−0.267	−0.289	−0.311	−0.333	−0.355	−0.377	−0.399	−0.421	−0.443	**−10**
0	0.000	−0.022	−0.045	−0.067	−0.089	−0.111	−0.133	−0.156	−0.178	−0.200	−0.222	**0**
°C	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°C

TABLE 5 K (Positive) versus Gold–0.07 % Iron thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
					Thermoelectric Voltage in Millivolts							
0	0.000	0.022	0.045	0.067	0.089	0.111	0.134	0.156				0
°C	0	1	2	3	4	5	6	7	8	9	10	°C

Coefficients and temperature ranges of equations used to compute the above ITS–90 based table for K (Positive) versus Gold - 0.07% Iron thermocouples.

−273 °C to 7 °C

$c_0 = 0.000\,000\,000\,0$
$c_1 = 2.227\,236\,746\,6 \times 10^{-02}$
$c_2 = 3.640\,617\,966\,4 \times 10^{-06}$
$c_3 = -1.596\,792\,820\,2 \times 10^{-07}$
$c_4 = -4.526\,016\,988\,8 \times 10^{-09}$
$c_5 = 4.043\,255\,576\,9 \times 10^{-11}$
$c_6 = 4.906\,303\,576\,5 \times 10^{-12}$
$c_7 = 1.227\,234\,848\,4 \times 10^{-13}$
$c_8 = 1.682\,977\,369\,7 \times 10^{-15}$
$c_9 = 1.463\,645\,014\,9 \times 10^{-17}$
$c_{10} = 8.428\,790\,974\,7 \times 10^{-20}$
$c_{11} = 3.214\,663\,938\,7 \times 10^{-22}$
$c_{12} = 7.822\,543\,048\,3 \times 10^{-25}$
$c_{13} = 1.101\,093\,059\,6 \times 10^{-27}$
$c_{14} = 6.826\,366\,158\,0 \times 10^{-31}$

TABLE 6 K (Positive) versus Gold–0.07 % Iron thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°F
						Thermoelectric Voltage in Millivolts						
−450	−5.251	−5.259	−5.266	−5.273	−5.279	−5.286	−5.292	−5.297	−5.302	−5.307		−450
−440	−5.167	−5.176	−5.185	−5.194	−5.202	−5.211	−5.219	−5.228	−5.236	−5.244	−5.251	−440
−430	−5.074	−5.083	−5.093	−5.102	−5.111	−5.121	−5.130	−5.139	−5.149	−5.158	−5.167	−430
−420	−4.980	−4.989	−4.998	−5.008	−5.017	−5.027	−5.036	−5.045	−5.055	−5.064	−5.074	−420
−410	−4.886	−4.896	−4.905	−4.914	−4.923	−4.933	−4.942	−4.951	−4.961	−4.970	−4.980	−410
−400	−4.794	−4.803	−4.813	−4.822	−4.831	−4.840	−4.849	−4.859	−4.868	−4.877	−4.886	−400
−390	−4.703	−4.712	−4.721	−4.730	−4.739	−4.749	−4.758	−4.767	−4.776	−4.785	−4.794	−390
−380	−4.611	−4.620	−4.630	−4.639	−4.648	−4.657	−4.666	−4.675	−4.685	−4.694	−4.703	−380
−370	−4.519	−4.528	−4.537	−4.547	−4.556	−4.565	−4.574	−4.584	−4.593	−4.602	−4.611	−370
−360	−4.425	−4.435	−4.444	−4.454	−4.463	−4.472	−4.482	−4.491	−4.500	−4.510	−4.519	−360
−350	−4.331	−4.340	−4.350	−4.359	−4.369	−4.378	−4.388	−4.397	−4.407	−4.416	−4.425	−350
−340	−4.235	−4.244	−4.254	−4.263	−4.273	−4.283	−4.292	−4.302	−4.312	−4.321	−4.331	−340
−330	−4.137	−4.147	−4.157	−4.166	−4.176	−4.186	−4.196	−4.205	−4.215	−4.225	−4.235	−330
−320	−4.038	−4.048	−4.058	−4.068	−4.078	−4.088	−4.098	−4.108	−4.117	−4.127	−4.137	−320
−310	−3.938	−3.948	−3.958	−3.968	−3.978	−3.988	−3.998	−4.008	−4.018	−4.028	−4.038	−310
−300	−3.837	−3.847	−3.857	−3.867	−3.878	−3.888	−3.898	−3.908	−3.918	−3.928	−3.938	−300
−290	−3.734	−3.745	−3.755	−3.765	−3.776	−3.786	−3.796	−3.806	−3.816	−3.827	−3.837	−290
−280	−3.630	−3.641	−3.651	−3.662	−3.672	−3.683	−3.693	−3.703	−3.714	−3.724	−3.734	−280
−270	−3.525	−3.536	−3.547	−3.557	−3.568	−3.578	−3.589	−3.599	−3.610	−3.620	−3.630	−270
−260	−3.419	−3.430	−3.441	−3.451	−3.462	−3.472	−3.483	−3.494	−3.504	−3.515	−3.525	−260
−250	−3.312	−3.323	−3.334	−3.344	−3.355	−3.366	−3.377	−3.387	−3.398	−3.409	−3.419	−250
−240	−3.204	−3.215	−3.225	−3.236	−3.247	−3.258	−3.269	−3.280	−3.290	−3.301	−3.312	−240
−230	−3.095	−3.106	−3.116	−3.127	−3.138	−3.149	−3.160	−3.171	−3.182	−3.193	−3.204	−230
−220	−2.984	−2.995	−3.006	−3.018	−3.029	−3.040	−3.051	−3.062	−3.073	−3.084	−3.095	−220
−210	−2.873	−2.885	−2.896	−2.907	−2.918	−2.929	−2.940	−2.951	−2.962	−2.973	−2.984	−210
−200	−2.762	−2.773	−2.784	−2.795	−2.806	−2.818	−2.829	−2.840	−2.851	−2.862	−2.873	−200
−190	−2.649	−2.660	−2.671	−2.683	−2.694	−2.705	−2.717	−2.728	−2.739	−2.750	−2.762	−190
−180	−2.535	−2.547	−2.558	−2.570	−2.581	−2.592	−2.604	−2.615	−2.626	−2.638	−2.649	−180
−170	−2.421	−2.433	−2.444	−2.456	−2.467	−2.478	−2.490	−2.501	−2.513	−2.524	−2.535	−170
−160	−2.306	−2.318	−2.329	−2.341	−2.352	−2.364	−2.375	−2.387	−2.398	−2.410	−2.421	−160
−150	−2.191	−2.202	−2.214	−2.226	−2.237	−2.249	−2.260	−2.272	−2.283	−2.295	−2.306	−150
−140	−2.075	−2.086	−2.098	−2.110	−2.121	−2.133	−2.144	−2.156	−2.168	−2.179	−2.191	−140
−130	−1.958	−1.970	−1.981	−1.993	−2.005	−2.016	−2.028	−2.040	−2.051	−2.063	−2.075	−130
−120	−1.840	−1.852	−1.864	−1.876	−1.888	−1.899	−1.911	−1.923	−1.934	−1.946	−1.958	−120
−110	−1.723	−1.734	−1.746	−1.758	−1.770	−1.782	−1.793	−1.805	−1.817	−1.829	−1.840	−110
−100	−1.604	−1.616	−1.628	−1.640	−1.651	−1.663	−1.675	−1.687	−1.699	−1.711	−1.723	−100
−90	−1.485	−1.497	−1.509	−1.521	−1.533	−1.545	−1.556	−1.568	−1.580	−1.592	−1.604	−90
−80	−1.365	−1.377	−1.389	−1.401	−1.413	−1.425	−1.437	−1.449	−1.461	−1.473	−1.485	−80
−70	−1.245	−1.257	−1.269	−1.281	−1.293	−1.305	−1.317	−1.329	−1.341	−1.353	−1.365	−70
−60	−1.125	−1.137	−1.149	−1.161	−1.173	−1.185	−1.197	−1.209	−1.221	−1.233	−1.245	−60
−50	−1.004	−1.016	−1.028	−1.040	−1.052	−1.064	−1.077	−1.089	−1.101	−1.113	−1.125	−50
−40	−0.883	−0.895	−0.907	−0.919	−0.931	−0.943	−0.955	−0.968	−0.980	−0.992	−1.004	−40
−30	−0.761	−0.773	−0.785	−0.798	−0.810	−0.822	−0.834	−0.846	−0.858	−0.870	−0.883	−30
−20	−0.639	−0.651	−0.663	−0.676	−0.688	−0.700	−0.712	−0.724	−0.737	−0.749	−0.761	−20
−10	−0.517	−0.529	−0.541	−0.554	−0.566	−0.578	−0.590	−0.602	−0.615	−0.627	−0.639	−10
0	−0.394	−0.407	−0.419	−0.431	−0.443	−0.456	−0.468	−0.480	−0.492	−0.505	−0.517	0
°F	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°F

TABLE 6 K (Positive) versus Gold–0.07 % Iron thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
0	−0.394	−0.382	−0.370	−0.358	−0.345	−0.333	−0.321	−0.308	−0.296	−0.284	−0.271	0
10	−0.271	−0.259	−0.247	−0.235	−0.222	−0.210	−0.198	−0.185	−0.173	−0.161	−0.148	10
20	−0.148	−0.136	−0.124	−0.111	−0.099	−0.087	−0.074	−0.062	−0.049	−0.037	−0.025	20
30	−0.025	−0.012	0.000	0.012	0.025	0.037	0.050	0.062	0.074	0.087	0.099	30
40	0.099	0.111	0.124	0.136	0.149							40
°F	0	1	2	3	4	5	6	7	8	9	10	°F

Coefficients and temperature ranges of equations used to compute the above ITS−90 based table for K (Positive) versus Gold - 0.07% Iron thermocouples.

−459 °F to 44 °F

$$c_0 = -3.943\,288\,352\,83 \times 10^{-01}$$
$$c_1 = 1.226\,772\,330\,60 \times 10^{-02}$$
$$c_2 = 1.636\,991\,958\,17 \times 10^{-06}$$
$$c_3 = 5.820\,356\,987\,29 \times 10^{-09}$$
$$c_4 = 1.164\,639\,407\,70 \times 10^{-13}$$
$$c_5 = -2.491\,493\,507\,12 \times 10^{-12}$$
$$c_6 = -2.512\,241\,604\,00 \times 10^{-14}$$
$$c_7 = 4.281\,794\,129\,16 \times 10^{-17}$$
$$c_8 = 2.523\,678\,880\,90 \times 10^{-18}$$
$$c_9 = 2.192\,565\,088\,72 \times 10^{-20}$$
$$c_{10} = 1.009\,377\,284\,90 \times 10^{-22}$$
$$c_{11} = 2.805\,940\,527\,01 \times 10^{-25}$$
$$c_{12} = 4.731\,998\,451\,57 \times 10^{-28}$$
$$c_{13} = 4.471\,949\,104\,20 \times 10^{-31}$$
$$c_{14} = 1.821\,270\,730\,56 \times 10^{-34}$$

TABLE 7 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
0	0.000	0.011	0.021	0.032	0.042	0.053	0.064	0.075	0.086	0.097	0.108	0
10	0.108	0.119	0.130	0.141	0.152	0.164	0.175	0.187	0.198	0.209	0.221	10
20	0.221	0.233	0.244	0.256	0.268	0.280	0.292	0.303	0.315	0.327	0.340	20
30	0.340	0.352	0.364	0.376	0.388	0.401	0.413	0.425	0.438	0.450	0.463	30
40	0.463	0.476	0.488	0.501	0.514	0.527	0.539	0.552	0.565	0.578	0.591	40
50	0.591	0.604	0.617	0.631	0.644	0.657	0.670	0.684	0.697	0.711	0.724	50
60	0.724	0.738	0.751	0.765	0.779	0.792	0.806	0.820	0.834	0.848	0.862	60
70	0.862	0.876	0.890	0.904	0.918	0.932	0.946	0.960	0.975	0.989	1.003	70
80	1.003	1.018	1.032	1.047	1.061	1.076	1.090	1.105	1.120	1.135	1.149	80
90	1.149	1.164	1.179	1.194	1.209	1.224	1.239	1.254	1.269	1.284	1.299	90
100	1.299	1.315	1.330	1.345	1.361	1.376	1.391	1.407	1.422	1.438	1.453	100
110	1.453	1.469	1.485	1.500	1.516	1.532	1.548	1.564	1.579	1.595	1.611	110
120	1.611	1.627	1.643	1.659	1.676	1.692	1.708	1.724	1.740	1.757	1.773	120
130	1.773	1.789	1.806	1.822	1.839	1.855	1.872	1.888	1.905	1.922	1.938	130
140	1.938	1.955	1.972	1.988	2.005	2.022	2.039	2.056	2.073	2.090	2.107	140
150	2.107	2.124	2.141	2.158	2.176	2.193	2.210	2.227	2.245	2.262	2.279	150
160	2.279	2.297	2.314	2.332	2.349	2.367	2.384	2.402	2.420	2.437	2.455	160
170	2.455	2.473	2.491	2.508	2.526	2.544	2.562	2.580	2.598	2.616	2.634	170
180	2.634	2.652	2.670	2.688	2.707	2.725	2.743	2.761	2.780	2.798	2.816	180
190	2.816	2.835	2.853	2.872	2.890	2.909	2.927	2.946	2.964	2.983	3.002	190
200	3.002	3.020	3.039	3.058	3.077	3.096	3.114	3.133	3.152	3.171	3.190	200
210	3.190	3.209	3.228	3.247	3.266	3.286	3.305	3.324	3.343	3.362	3.382	210
220	3.382	3.401	3.420	3.440	3.459	3.479	3.498	3.518	3.537	3.557	3.576	220
230	3.576	3.596	3.615	3.635	3.655	3.674	3.694	3.714	3.734	3.754	3.774	230
240	3.774	3.793	3.813	3.833	3.853	3.873	3.893	3.913	3.933	3.954	3.974	240
250	3.974	3.994	4.014	4.034	4.055	4.075	4.095	4.115	4.136	4.156	4.177	250
260	4.177	4.197	4.218	4.238	4.259	4.279	4.300	4.320	4.341	4.362	4.382	260
270	4.382	4.403	4.424	4.444	4.465	4.486	4.507	4.528	4.549	4.570	4.591	270
280	4.591	4.612	4.633	4.654	4.675	4.696	4.717	4.738	4.759	4.780	4.801	280
290	4.801	4.823	4.844	4.865	4.887	4.908	4.929	4.951	4.972	4.994	5.015	290
300	5.015	5.036	5.058	5.080	5.101	5.123	5.144	5.166	5.188	5.209	5.231	300
310	5.231	5.253	5.275	5.296	5.318	5.340	5.362	5.384	5.406	5.428	5.450	310
320	5.450	5.472	5.494	5.516	5.538	5.560	5.582	5.604	5.626	5.648	5.671	320
330	5.671	5.693	5.715	5.737	5.760	5.782	5.804	5.827	5.849	5.871	5.894	330
340	5.894	5.916	5.939	5.961	5.984	6.006	6.029	6.052	6.074	6.097	6.120	340
350	6.120	6.142	6.165	6.188	6.211	6.233	6.256	6.279	6.302	6.325	6.348	350
360	6.348	6.371	6.394	6.417	6.440	6.463	6.486	6.509	6.532	6.555	6.578	360
370	6.578	6.601	6.625	6.648	6.671	6.694	6.718	6.741	6.764	6.788	6.811	370
380	6.811	6.834	6.858	6.881	6.905	6.928	6.952	6.975	6.999	7.022	7.046	380
390	7.046	7.069	7.093	7.117	7.140	7.164	7.188	7.212	7.235	7.259	7.283	390
400	7.283	7.307	7.331	7.355	7.379	7.402	7.426	7.450	7.474	7.498	7.522	400
410	7.522	7.546	7.571	7.595	7.619	7.643	7.667	7.691	7.715	7.740	7.764	410
420	7.764	7.788	7.812	7.837	7.861	7.885	7.910	7.934	7.959	7.983	8.007	420
430	8.007	8.032	8.056	8.081	8.105	8.130	8.155	8.179	8.204	8.228	8.253	430
440	8.253	8.278	8.302	8.327	8.352	8.377	8.401	8.426	8.451	8.476	8.501	440
450	8.501	8.525	8.550	8.575	8.600	8.625	8.650	8.675	8.700	8.725	8.750	450
460	8.750	8.775	8.800	8.825	8.850	8.875	8.901	8.926	8.951	8.976	9.001	460
470	9.001	9.026	9.052	9.077	9.102	9.127	9.153	9.178	9.203	9.229	9.254	470
480	9.254	9.280	9.305	9.330	9.356	9.381	9.407	9.432	9.458	9.483	9.509	480
490	9.509	9.534	9.560	9.585	9.611	9.637	9.662	9.688	9.714	9.739	9.765	490
500	9.765	9.791	9.817	9.842	9.868	9.894	9.920	9.946	9.972	9.998	10.024	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 7 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	9.765	9.791	9.817	9.842	9.868	9.894	9.920	9.946	9.972	9.998	10.024	500
510	10.024	10.050	10.076	10.102	10.128	10.154	10.180	10.206	10.232	10.259	10.285	510
520	10.285	10.311	10.337	10.363	10.390	10.416	10.442	10.469	10.495	10.522	10.548	520
530	10.548	10.574	10.601	10.627	10.654	10.680	10.707	10.734	10.760	10.787	10.813	530
540	10.813	10.840	10.867	10.893	10.920	10.947	10.974	11.000	11.027	11.054	11.081	540
550	11.081	11.108	11.135	11.162	11.188	11.215	11.242	11.269	11.296	11.323	11.350	550
560	11.350	11.377	11.405	11.432	11.459	11.486	11.513	11.540	11.567	11.595	11.622	560
570	11.622	11.649	11.676	11.704	11.731	11.758	11.786	11.813	11.841	11.868	11.895	570
580	11.895	11.923	11.950	11.978	12.005	12.033	12.060	12.088	12.116	12.143	12.171	580
590	12.171	12.198	12.226	12.254	12.282	12.309	12.337	12.365	12.393	12.420	12.448	590
600	12.448	12.476	12.504	12.532	12.560	12.588	12.615	12.643	12.671	12.699	12.727	600
610	12.727	12.755	12.783	12.811	12.839	12.868	12.896	12.924	12.952	12.980	13.008	610
620	13.008	13.036	13.065	13.093	13.121	13.149	13.178	13.206	13.234	13.263	13.291	620
630	13.291	13.319	13.348	13.376	13.405	13.433	13.462	13.490	13.519	13.547	13.576	630
640	13.576	13.604	13.633	13.661	13.690	13.719	13.747	13.776	13.805	13.833	13.862	640
650	13.862	13.891	13.919	13.948	13.977	14.006	14.035	14.063	14.092	14.121	14.150	650
660	14.150	14.179	14.208	14.237	14.266	14.295	14.324	14.353	14.382	14.411	14.440	660
670	14.440	14.469	14.498	14.527	14.556	14.585	14.614	14.643	14.673	14.702	14.731	670
680	14.731	14.760	14.790	14.819	14.848	14.877	14.907	14.936	14.965	14.995	15.024	680
690	15.024	15.054	15.083	15.112	15.142	15.171	15.201	15.230	15.260	15.289	15.319	690
700	15.319	15.348	15.378	15.408	15.437	15.467	15.496	15.526	15.556	15.585	15.615	700
710	15.615	15.645	15.675	15.704	15.734	15.764	15.794	15.824	15.853	15.883	15.913	710
720	15.913	15.943	15.973	16.003	16.033	16.063	16.093	16.123	16.153	16.183	16.213	720
730	16.213	16.243	16.273	16.303	16.333	16.363	16.393	16.423	16.453	16.483	16.514	730
740	16.514	16.544	16.574	16.604	16.635	16.665	16.695	16.725	16.756	16.786	16.816	740
750	16.816	16.847	16.877	16.907	16.938	16.968	16.999	17.029	17.059	17.090	17.120	750
760	17.120	17.151	17.181	17.212	17.243	17.273	17.304	17.334	17.365	17.395	17.426	760
770	17.426	17.457	17.487	17.518	17.549	17.580	17.610	17.641	17.672	17.703	17.733	770
780	17.733	17.764	17.795	17.826	17.857	17.887	17.918	17.949	17.980	18.011	18.042	780
790	18.042	18.073	18.104	18.135	18.166	18.197	18.228	18.259	18.290	18.321	18.352	790
800	18.352	18.383	18.414	18.445	18.476	18.508	18.539	18.570	18.601	18.632	18.664	800
810	18.664	18.695	18.726	18.757	18.789	18.820	18.851	18.882	18.914	18.945	18.977	810
820	18.977	19.008	19.039	19.071	19.102	19.134	19.165	19.196	19.228	19.259	19.291	820
830	19.291	19.322	19.354	19.385	19.417	19.449	19.480	19.512	19.543	19.575	19.607	830
840	19.607	19.638	19.670	19.702	19.733	19.765	19.797	19.828	19.860	19.892	19.924	840
850	19.924	19.956	19.987	20.019	20.051	20.083	20.115	20.147	20.178	20.210	20.242	850
860	20.242	20.274	20.306	20.338	20.370	20.402	20.434	20.466	20.498	20.530	20.562	860
870	20.562	20.594	20.626	20.658	20.690	20.722	20.754	20.787	20.819	20.851	20.883	870
880	20.883	20.915	20.947	20.980	21.012	21.044	21.076	21.108	21.141	21.173	21.205	880
890	21.205	21.238	21.270	21.302	21.335	21.367	21.399	21.432	21.464	21.497	21.529	890
900	21.529	21.561	21.594	21.626	21.659	21.691	21.724	21.756	21.789	21.821	21.854	900
910	21.854	21.886	21.919	21.951	21.984	22.017	22.049	22.082	22.115	22.147	22.180	910
920	22.180	22.212	22.245	22.278	22.311	22.343	22.376	22.409	22.442	22.474	22.507	920
930	22.507	22.540	22.573	22.605	22.638	22.671	22.704	22.737	22.770	22.803	22.835	930
940	22.835	22.868	22.901	22.934	22.967	23.000	23.033	23.066	23.099	23.132	23.165	940
950	23.165	23.198	23.231	23.264	23.297	23.330	23.363	23.396	23.429	23.463	23.496	950
960	23.496	23.529	23.562	23.595	23.628	23.661	23.695	23.728	23.761	23.794	23.828	960
970	23.828	23.861	23.894	23.927	23.961	23.994	24.027	24.060	24.094	24.127	24.160	970
980	24.160	24.194	24.227	24.260	24.294	24.327	24.361	24.394	24.427	24.461	24.494	980
990	24.494	24.528	24.561	24.595	24.628	24.662	24.695	24.729	24.762	24.796	24.829	990
1000	24.829	24.863	24.896	24.930	24.964	24.997	25.031	25.064	25.098	25.132	25.165	1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 7 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1000	24.829	24.863	24.896	24.930	24.964	24.997	25.031	25.064	25.098	25.132	25.165	1000
1010	25.165	25.199	25.233	25.266	25.300	25.334	25.367	25.401	25.435	25.469	25.502	1010
1020	25.502	25.536	25.570	25.604	25.637	25.671	25.705	25.739	25.773	25.807	25.840	1020
1030	25.840	25.874	25.908	25.942	25.976	26.010	26.044	26.078	26.111	26.145	26.179	1030
1040	26.179	26.213	26.247	26.281	26.315	26.349	26.383	26.417	26.451	26.485	26.519	1040
1050	26.519	26.553	26.587	26.621	26.655	26.689	26.724	26.758	26.792	26.826	26.860	1050
1060	26.860	26.894	26.928	26.962	26.997	27.031	27.065	27.099	27.133	27.167	27.202	1060
1070	27.202	27.236	27.270	27.304	27.339	27.373	27.407	27.441	27.476	27.510	27.544	1070
1080	27.544	27.579	27.613	27.647	27.681	27.716	27.750	27.784	27.819	27.853	27.888	1080
1090	27.888	27.922	27.956	27.991	28.025	28.060	28.094	28.128	28.163	28.197	28.232	1090
1100	28.232	28.266	28.301	28.335	28.370	28.404	28.439	28.473	28.508	28.542	28.577	1100
1110	28.577	28.611	28.646	28.680	28.715	28.750	28.784	28.819	28.853	28.888	28.923	1110
1120	28.923	28.957	28.992	29.027	29.061	29.096	29.130	29.165	29.200	29.235	29.269	1120
1130	29.269	29.304	29.339	29.373	29.408	29.443	29.477	29.512	29.547	29.582	29.616	1130
1140	29.616	29.651	29.686	29.721	29.756	29.790	29.825	29.860	29.895	29.930	29.964	1140
1150	29.964	29.999	30.034	30.069	30.104	30.139	30.174	30.209	30.243	30.278	30.313	1150
1160	30.313	30.348	30.383	30.418	30.453	30.488	30.523	30.558	30.593	30.628	30.663	1160
1170	30.663	30.698	30.733	30.767	30.802	30.837	30.872	30.907	30.943	30.978	31.013	1170
1180	31.013	31.048	31.083	31.118	31.153	31.188	31.223	31.258	31.293	31.328	31.363	1180
1190	31.363	31.398	31.433	31.468	31.504	31.539	31.574	31.609	31.644	31.679	31.714	1190
1200	31.714	31.750	31.785	31.820	31.855	31.890	31.925	31.961	31.996	32.031	32.066	1200
1210	32.066	32.101	32.137	32.172	32.207	32.242	32.278	32.313	32.348	32.383	32.419	1210
1220	32.419	32.454	32.489	32.524	32.560	32.595	32.630	32.666	32.701	32.736	32.771	1220
1230	32.771	32.807	32.842	32.877	32.913	32.948	32.983	33.019	33.054	33.089	33.125	1230
1240	33.125	33.160	33.196	33.231	33.266	33.302	33.337	33.372	33.408	33.443	33.479	1240
1250	33.479	33.514	33.549	33.585	33.620	33.656	33.691	33.727	33.762	33.798	33.833	1250
1260	33.833	33.868	33.904	33.939	33.975	34.010	34.046	34.081	34.117	34.152	34.188	1260
1270	34.188	34.223	34.259	34.294	34.330	34.365	34.401	34.436	34.472	34.507	34.543	1270
1280	34.543	34.578	34.614	34.649	34.685	34.721	34.756	34.792	34.827	34.863	34.898	1280
1290	34.898	34.934	34.969	35.005	35.041	35.076	35.112	35.147	35.183	35.219	35.254	1290
1300	35.254	35.290	35.325	35.361	35.397	35.432	35.468	35.504	35.539	35.575	35.610	1300
1310	35.610	35.646	35.682	35.717	35.753	35.789	35.824	35.860	35.896	35.931	35.967	1310
1320	35.967	36.003	36.038	36.074	36.110	36.145	36.181	36.217	36.252	36.288	36.324	1320
1330	36.324	36.359	36.395	36.431	36.466	36.502	36.538	36.574	36.609	36.645	36.681	1330
1340	36.681	36.716	36.752	36.788	36.824	36.859	36.895	36.931	36.966	37.002	37.038	1340
1350	37.038	37.074	37.109	37.145	37.181	37.217	37.252	37.288	37.324	37.360	37.395	1350
1360	37.395	37.431	37.467	37.503	37.538	37.574	37.610	37.646	37.682	37.717	37.753	1360
1370	37.753	37.789	37.825	37.860	37.896	37.932	37.968	38.004	38.039	38.075	38.111	1370
1380	38.111	38.147	38.182	38.218	38.254	38.290	38.326	38.361	38.397	38.433	38.469	1380
1390	38.469	38.505	38.540	38.576	38.612	38.648	38.684	38.719	38.755	38.791	38.827	1390
1400	38.827	38.863	38.898	38.934	38.970	39.006	39.042	39.078	39.113	39.149	39.185	1400
1410	39.185	39.221	39.257	39.292	39.328	39.364	39.400	39.436	39.472	39.507	39.543	1410
1420	39.543	39.579	39.615	39.651	39.687	39.722	39.758	39.794	39.830	39.866	39.902	1420
1430	39.902	39.937	39.973	40.009	40.045	40.081	40.117	40.152	40.188	40.224	40.260	1430
1440	40.260	40.296	40.332	40.367	40.403	40.439	40.475	40.511	40.547	40.583	40.618	1440
1450	40.618	40.654	40.690	40.726	40.762	40.798	40.833	40.869	40.905	40.941	40.977	1450
1460	40.977	41.013	41.049	41.084	41.120	41.156	41.192	41.228	41.264	41.300	41.335	1460
1470	41.335	41.371	41.407	41.443	41.479	41.515	41.550	41.586	41.622	41.658	41.694	1470
1480	41.694	41.730	41.766	41.801	41.837	41.873	41.909	41.945	41.981	42.017	42.053	1480
1490	42.053	42.088	42.124	42.160	42.196	42.232	42.268	42.304	42.339	42.375	42.411	1490
1500	42.411	42.447	42.483	42.519	42.555	42.591	42.626	42.662	42.698	42.734	42.770	1500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 7 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1500	42.411	42.447	42.483	42.519	42.555	42.591	42.626	42.662	42.698	42.734	42.770	**1500**
1510	42.770	42.806	42.842	42.878	42.913	42.949	42.985	43.021	43.057	43.093	43.129	**1510**
1520	43.129	43.165	43.201	43.236	43.272	43.308	43.344	43.380	43.416	43.452	43.488	**1520**
1530	43.488	43.524	43.560	43.595	43.631	43.667	43.703	43.739	43.775	43.811	43.847	**1530**
1540	43.847	43.883	43.919	43.955	43.991	44.026	44.062	44.098	44.134	44.170	44.206	**1540**
1550	44.206	44.242	44.278	44.314	44.350	44.386	44.422	44.458	44.494	44.530	44.566	**1550**
1560	44.566	44.602	44.638	44.674	44.710	44.746	44.782	44.818	44.854	44.890	44.926	**1560**
1570	44.926	44.962	44.998	45.034	45.070	45.106	45.142	45.178	45.214	45.250	45.286	**1570**
1580	45.286	45.322	45.358	45.394	45.430	45.466	45.502	45.539	45.575	45.611	45.647	**1580**
1590	45.647	45.683	45.719	45.755	45.791	45.827	45.864	45.900	45.936	45.972	46.008	**1590**
1600	46.008											**1600**
°C	0	1	2	3	4	5	6	7	8	9	10	°C

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum - 5% Molybdenum versus Platinum - 0.1% Molybdenum thermocouples.

0 °C to 491 °C

$$c_0 = 0.000\ 000\ 0$$
$$c_1 = 1.050\ 145\ 6 \times 10^{-02}$$
$$c_2 = 2.841\ 093\ 7 \times 10^{-05}$$
$$c_3 = -4.336\ 859\ 4 \times 10^{-08}$$
$$c_4 = 1.058\ 577\ 0 \times 10^{-10}$$
$$c_5 = -2.384\ 895\ 0 \times 10^{-13}$$
$$c_6 = 3.357\ 425\ 2 \times 10^{-16}$$
$$c_7 = -2.018\ 647\ 6 \times 10^{-19}$$

491 °C to 1600 °C

$$c_0 = 6.835\ 408\ 6$$
$$c_1 = -4.877\ 647\ 9 \times 10^{-02}$$
$$c_2 = 2.491\ 335\ 3 \times 10^{-04}$$
$$c_3 = -4.992\ 047\ 2 \times 10^{-07}$$
$$c_4 = 6.461\ 521\ 9 \times 10^{-10}$$
$$c_5 = -5.307\ 121\ 2 \times 10^{-13}$$
$$c_6 = 2.686\ 517\ 3 \times 10^{-16}$$
$$c_7 = -7.671\ 726\ 8 \times 10^{-20}$$
$$c_8 = 9.467\ 086\ 2 \times 10^{-24}$$

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
30			0.000	0.006	0.012	0.018	0.023	0.029	0.035	0.041	0.047	30
40	0.047	0.053	0.059	0.065	0.071	0.077	0.083	0.089	0.096	0.102	0.108	40
50	0.108	0.114	0.120	0.126	0.133	0.139	0.145	0.151	0.157	0.164	0.170	50
60	0.170	0.176	0.183	0.189	0.195	0.202	0.208	0.215	0.221	0.228	0.234	60
70	0.234	0.240	0.247	0.253	0.260	0.267	0.273	0.280	0.286	0.293	0.299	70
80	0.299	0.306	0.313	0.319	0.326	0.333	0.340	0.346	0.353	0.360	0.367	80
90	0.367	0.373	0.380	0.387	0.394	0.401	0.408	0.414	0.421	0.428	0.435	90
100	0.435	0.442	0.449	0.456	0.463	0.470	0.477	0.484	0.491	0.498	0.505	100
110	0.505	0.512	0.519	0.527	0.534	0.541	0.548	0.555	0.562	0.570	0.577	110
120	0.577	0.584	0.591	0.599	0.606	0.613	0.620	0.628	0.635	0.642	0.650	120
130	0.650	0.657	0.665	0.672	0.679	0.687	0.694	0.702	0.709	0.717	0.724	130
140	0.724	0.732	0.739	0.747	0.754	0.762	0.770	0.777	0.785	0.792	0.800	140
150	0.800	0.808	0.815	0.823	0.831	0.838	0.846	0.854	0.862	0.869	0.877	150
160	0.877	0.885	0.893	0.901	0.908	0.916	0.924	0.932	0.940	0.948	0.956	160
170	0.956	0.964	0.972	0.979	0.987	0.995	1.003	1.011	1.019	1.027	1.035	170
180	1.035	1.044	1.052	1.060	1.068	1.076	1.084	1.092	1.100	1.108	1.117	180
190	1.117	1.125	1.133	1.141	1.149	1.158	1.166	1.174	1.182	1.191	1.199	190
200	1.199	1.207	1.216	1.224	1.232	1.241	1.249	1.257	1.266	1.274	1.283	200
210	1.283	1.291	1.299	1.308	1.316	1.325	1.333	1.342	1.350	1.359	1.367	210
220	1.367	1.376	1.384	1.393	1.402	1.410	1.419	1.427	1.436	1.445	1.453	220
230	1.453	1.462	1.471	1.479	1.488	1.497	1.506	1.514	1.523	1.532	1.541	230
240	1.541	1.549	1.558	1.567	1.576	1.585	1.594	1.602	1.611	1.620	1.629	240
250	1.629	1.638	1.647	1.656	1.665	1.674	1.683	1.692	1.701	1.710	1.719	250
260	1.719	1.728	1.737	1.746	1.755	1.764	1.773	1.782	1.791	1.800	1.809	260
270	1.809	1.818	1.828	1.837	1.846	1.855	1.864	1.874	1.883	1.892	1.901	270
280	1.901	1.910	1.920	1.929	1.938	1.947	1.957	1.966	1.975	1.985	1.994	280
290	1.994	2.003	2.013	2.022	2.032	2.041	2.050	2.060	2.069	2.079	2.088	290
300	2.088	2.098	2.107	2.117	2.126	2.136	2.145	2.155	2.164	2.174	2.183	300
310	2.183	2.193	2.202	2.212	2.222	2.231	2.241	2.250	2.260	2.270	2.279	310
320	2.279	2.289	2.299	2.308	2.318	2.328	2.338	2.347	2.357	2.367	2.377	320
330	2.377	2.386	2.396	2.406	2.416	2.426	2.435	2.445	2.455	2.465	2.475	330
340	2.475	2.485	2.495	2.504	2.514	2.524	2.534	2.544	2.554	2.564	2.574	340
350	2.574	2.584	2.594	2.604	2.614	2.624	2.634	2.644	2.654	2.664	2.674	350
360	2.674	2.684	2.694	2.705	2.715	2.725	2.735	2.745	2.755	2.765	2.776	360
370	2.776	2.786	2.796	2.806	2.816	2.827	2.837	2.847	2.857	2.868	2.878	370
380	2.878	2.888	2.898	2.909	2.919	2.929	2.940	2.950	2.960	2.971	2.981	380
390	2.981	2.991	3.002	3.012	3.023	3.033	3.043	3.054	3.064	3.075	3.085	390
400	3.085	3.096	3.106	3.117	3.127	3.138	3.148	3.159	3.169	3.180	3.190	400
410	3.190	3.201	3.211	3.222	3.233	3.243	3.254	3.264	3.275	3.286	3.296	410
420	3.296	3.307	3.318	3.328	3.339	3.350	3.360	3.371	3.382	3.392	3.403	420
430	3.403	3.414	3.425	3.435	3.446	3.457	3.468	3.479	3.489	3.500	3.511	430
440	3.511	3.522	3.533	3.544	3.554	3.565	3.576	3.587	3.598	3.609	3.620	440
450	3.620	3.631	3.642	3.653	3.664	3.674	3.685	3.696	3.707	3.718	3.729	450
460	3.729	3.740	3.751	3.762	3.774	3.785	3.796	3.807	3.818	3.829	3.840	460
470	3.840	3.851	3.862	3.873	3.884	3.895	3.907	3.918	3.929	3.940	3.951	470
480	3.951	3.962	3.974	3.985	3.996	4.007	4.019	4.030	4.041	4.052	4.064	480
490	4.064	4.075	4.086	4.097	4.109	4.120	4.131	4.143	4.154	4.165	4.177	490
500	4.177	4.188	4.199	4.211	4.222	4.233	4.245	4.256	4.268	4.279	4.291	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
500	4.177	4.188	4.199	4.211	4.222	4.233	4.245	4.256	4.268	4.279	4.291	500
510	4.291	4.302	4.313	4.325	4.336	4.348	4.359	4.371	4.382	4.394	4.405	510
520	4.405	4.417	4.428	4.440	4.451	4.463	4.475	4.486	4.498	4.509	4.521	520
530	4.521	4.532	4.544	4.556	4.567	4.579	4.591	4.602	4.614	4.626	4.637	530
540	4.637	4.649	4.661	4.672	4.684	4.696	4.707	4.719	4.731	4.743	4.754	540
550	4.754	4.766	4.778	4.790	4.801	4.813	4.825	4.837	4.849	4.861	4.872	550
560	4.872	4.884	4.896	4.908	4.920	4.932	4.944	4.955	4.967	4.979	4.991	560
570	4.991	5.003	5.015	5.027	5.039	5.051	5.063	5.075	5.087	5.099	5.111	570
580	5.111	5.123	5.135	5.147	5.159	5.171	5.183	5.195	5.207	5.219	5.231	580
590	5.231	5.243	5.255	5.267	5.279	5.291	5.304	5.316	5.328	5.340	5.352	590
600	5.352	5.364	5.376	5.389	5.401	5.413	5.425	5.437	5.450	5.462	5.474	600
610	5.474	5.486	5.498	5.511	5.523	5.535	5.547	5.560	5.572	5.584	5.597	610
620	5.597	5.609	5.621	5.634	5.646	5.658	5.671	5.683	5.695	5.708	5.720	620
630	5.720	5.732	5.745	5.757	5.769	5.782	5.794	5.807	5.819	5.832	5.844	630
640	5.844	5.857	5.869	5.881	5.894	5.906	5.919	5.931	5.944	5.956	5.969	640
650	5.969	5.981	5.994	6.006	6.019	6.032	6.044	6.057	6.069	6.082	6.094	650
660	6.094	6.107	6.120	6.132	6.145	6.158	6.170	6.183	6.195	6.208	6.221	660
670	6.221	6.233	6.246	6.259	6.271	6.284	6.297	6.310	6.322	6.335	6.348	670
680	6.348	6.361	6.373	6.386	6.399	6.412	6.424	6.437	6.450	6.463	6.476	680
690	6.476	6.488	6.501	6.514	6.527	6.540	6.552	6.565	6.578	6.591	6.604	690
700	6.604	6.617	6.630	6.643	6.656	6.668	6.681	6.694	6.707	6.720	6.733	700
710	6.733	6.746	6.759	6.772	6.785	6.798	6.811	6.824	6.837	6.850	6.863	710
720	6.863	6.876	6.889	6.902	6.915	6.928	6.941	6.954	6.967	6.980	6.993	720
730	6.993	7.007	7.020	7.033	7.046	7.059	7.072	7.085	7.098	7.112	7.125	730
740	7.125	7.138	7.151	7.164	7.177	7.191	7.204	7.217	7.230	7.243	7.257	740
750	7.257	7.270	7.283	7.296	7.310	7.323	7.336	7.349	7.363	7.376	7.389	750
760	7.389	7.402	7.416	7.429	7.442	7.456	7.469	7.482	7.496	7.509	7.522	760
770	7.522	7.536	7.549	7.562	7.576	7.589	7.603	7.616	7.629	7.643	7.656	770
780	7.656	7.670	7.683	7.697	7.710	7.723	7.737	7.750	7.764	7.777	7.791	780
790	7.791	7.804	7.818	7.831	7.845	7.858	7.872	7.885	7.899	7.912	7.926	790
800	7.926	7.940	7.953	7.967	7.980	7.994	8.007	8.021	8.035	8.048	8.062	800
810	8.062	8.075	8.089	8.103	8.116	8.130	8.144	8.157	8.171	8.185	8.198	810
820	8.198	8.212	8.226	8.239	8.253	8.267	8.280	8.294	8.308	8.322	8.335	820
830	8.335	8.349	8.363	8.377	8.390	8.404	8.418	8.432	8.445	8.459	8.473	830
840	8.473	8.487	8.501	8.514	8.528	8.542	8.556	8.570	8.583	8.597	8.611	840
850	8.611	8.625	8.639	8.653	8.667	8.681	8.694	8.708	8.722	8.736	8.750	850
860	8.750	8.764	8.778	8.792	8.806	8.820	8.834	8.847	8.861	8.875	8.889	860
870	8.889	8.903	8.917	8.931	8.945	8.959	8.973	8.987	9.001	9.015	9.029	870
880	9.029	9.043	9.057	9.071	9.085	9.099	9.113	9.127	9.142	9.156	9.170	880
890	9.170	9.184	9.198	9.212	9.226	9.240	9.254	9.268	9.282	9.296	9.311	890
900	9.311	9.325	9.339	9.353	9.367	9.381	9.395	9.410	9.424	9.438	9.452	900
910	9.452	9.466	9.480	9.494	9.509	9.523	9.537	9.551	9.565	9.580	9.594	910
920	9.594	9.608	9.622	9.637	9.651	9.665	9.679	9.694	9.708	9.722	9.736	920
930	9.736	9.751	9.765	9.779	9.794	9.808	9.822	9.837	9.851	9.865	9.880	930
940	9.880	9.894	9.908	9.923	9.937	9.952	9.966	9.980	9.995	10.009	10.024	940
950	10.024	10.038	10.053	10.067	10.082	10.096	10.111	10.125	10.139	10.154	10.168	950
960	10.168	10.183	10.198	10.212	10.227	10.241	10.256	10.270	10.285	10.299	10.314	960
970	10.314	10.328	10.343	10.358	10.372	10.387	10.401	10.416	10.431	10.445	10.460	970
980	10.460	10.475	10.489	10.504	10.519	10.533	10.548	10.563	10.577	10.592	10.607	980
990	10.607	10.621	10.636	10.651	10.666	10.680	10.695	10.710	10.725	10.739	10.754	990
1000	10.754	10.769	10.784	10.799	10.813	10.828	10.843	10.858	10.873	10.887	10.902	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	10.754	10.769	10.784	10.799	10.813	10.828	10.843	10.858	10.873	10.887	10.902	1000
1010	10.902	10.917	10.932	10.947	10.962	10.977	10.991	11.006	11.021	11.036	11.051	1010
1020	11.051	11.066	11.081	11.096	11.111	11.126	11.141	11.156	11.170	11.185	11.200	1020
1030	11.200	11.215	11.230	11.245	11.260	11.275	11.290	11.305	11.320	11.335	11.350	1030
1040	11.350	11.365	11.380	11.396	11.411	11.426	11.441	11.456	11.471	11.486	11.501	1040
1050	11.501	11.516	11.531	11.546	11.561	11.577	11.592	11.607	11.622	11.637	11.652	1050
1060	11.652	11.667	11.683	11.698	11.713	11.728	11.743	11.758	11.774	11.789	11.804	1060
1070	11.804	11.819	11.834	11.850	11.865	11.880	11.895	11.911	11.926	11.941	11.956	1070
1080	11.956	11.972	11.987	12.002	12.018	12.033	12.048	12.064	12.079	12.094	12.109	1080
1090	12.109	12.125	12.140	12.155	12.171	12.186	12.202	12.217	12.232	12.248	12.263	1090
1100	12.263	12.278	12.294	12.309	12.325	12.340	12.356	12.371	12.386	12.402	12.417	1100
1110	12.417	12.433	12.448	12.464	12.479	12.495	12.510	12.526	12.541	12.556	12.572	1110
1120	12.572	12.588	12.603	12.619	12.634	12.650	12.665	12.681	12.696	12.712	12.727	1120
1130	12.727	12.743	12.758	12.774	12.790	12.805	12.821	12.836	12.852	12.868	12.883	1130
1140	12.883	12.899	12.914	12.930	12.946	12.961	12.977	12.993	13.008	13.024	13.040	1140
1150	13.040	13.055	13.071	13.087	13.102	13.118	13.134	13.149	13.165	13.181	13.197	1150
1160	13.197	13.212	13.228	13.244	13.260	13.275	13.291	13.307	13.323	13.338	13.354	1160
1170	13.354	13.370	13.386	13.402	13.417	13.433	13.449	13.465	13.481	13.496	13.512	1170
1180	13.512	13.528	13.544	13.560	13.576	13.591	13.607	13.623	13.639	13.655	13.671	1180
1190	13.671	13.687	13.703	13.719	13.734	13.750	13.766	13.782	13.798	13.814	13.830	1190
1200	13.830	13.846	13.862	13.878	13.894	13.910	13.926	13.942	13.958	13.974	13.990	1200
1210	13.990	14.006	14.022	14.038	14.054	14.070	14.086	14.102	14.118	14.134	14.150	1210
1220	14.150	14.166	14.182	14.198	14.214	14.230	14.246	14.262	14.278	14.295	14.311	1220
1230	14.311	14.327	14.343	14.359	14.375	14.391	14.407	14.424	14.440	14.456	14.472	1230
1240	14.472	14.488	14.504	14.520	14.537	14.553	14.569	14.585	14.601	14.618	14.634	1240
1250	14.634	14.650	14.666	14.682	14.699	14.715	14.731	14.747	14.764	14.780	14.796	1250
1260	14.796	14.812	14.829	14.845	14.861	14.877	14.894	14.910	14.926	14.943	14.959	1260
1270	14.959	14.975	14.991	15.008	15.024	15.040	15.057	15.073	15.089	15.106	15.122	1270
1280	15.122	15.139	15.155	15.171	15.188	15.204	15.220	15.237	15.253	15.270	15.286	1280
1290	15.286	15.302	15.319	15.335	15.352	15.368	15.385	15.401	15.417	15.434	15.450	1290
1300	15.450	15.467	15.483	15.500	15.516	15.533	15.549	15.566	15.582	15.599	15.615	1300
1310	15.615	15.632	15.648	15.665	15.681	15.698	15.714	15.731	15.747	15.764	15.780	1310
1320	15.780	15.797	15.814	15.830	15.847	15.863	15.880	15.896	15.913	15.930	15.946	1320
1330	15.946	15.963	15.979	15.996	16.013	16.029	16.046	16.063	16.079	16.096	16.113	1330
1340	16.113	16.129	16.146	16.163	16.179	16.196	16.213	16.229	16.246	16.263	16.279	1340
1350	16.279	16.296	16.313	16.329	16.346	16.363	16.380	16.396	16.413	16.430	16.447	1350
1360	16.447	16.463	16.480	16.497	16.514	16.530	16.547	16.564	16.581	16.598	16.614	1360
1370	16.614	16.631	16.648	16.665	16.682	16.698	16.715	16.732	16.749	16.766	16.783	1370
1380	16.783	16.799	16.816	16.833	16.850	16.867	16.884	16.901	16.917	16.934	16.951	1380
1390	16.951	16.968	16.985	17.002	17.019	17.036	17.053	17.070	17.087	17.104	17.120	1390
1400	17.120	17.137	17.154	17.171	17.188	17.205	17.222	17.239	17.256	17.273	17.290	1400
1410	17.290	17.307	17.324	17.341	17.358	17.375	17.392	17.409	17.426	17.443	17.460	1410
1420	17.460	17.477	17.494	17.511	17.528	17.545	17.562	17.580	17.597	17.614	17.631	1420
1430	17.631	17.648	17.665	17.682	17.699	17.716	17.733	17.750	17.768	17.785	17.802	1430
1440	17.802	17.819	17.836	17.853	17.870	17.887	17.905	17.922	17.939	17.956	17.973	1440
1450	17.973	17.990	18.008	18.025	18.042	18.059	18.076	18.094	18.111	18.128	18.145	1450
1460	18.145	18.162	18.180	18.197	18.214	18.231	18.249	18.266	18.283	18.300	18.318	1460
1470	18.318	18.335	18.352	18.369	18.387	18.404	18.421	18.438	18.456	18.473	18.490	1470
1480	18.490	18.508	18.525	18.542	18.560	18.577	18.594	18.612	18.629	18.646	18.664	1480
1490	18.664	18.681	18.698	18.716	18.733	18.750	18.768	18.785	18.802	18.820	18.837	1490
1500	18.837	18.855	18.872	18.889	18.907	18.924	18.942	18.959	18.977	18.994	19.011	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1500	18.837	18.855	18.872	18.889	18.907	18.924	18.942	18.959	18.977	18.994	19.011	1500
1510	19.011	19.029	19.046	19.064	19.081	19.099	19.116	19.134	19.151	19.168	19.186	1510
1520	19.186	19.203	19.221	19.238	19.256	19.273	19.291	19.308	19.326	19.343	19.361	1520
1530	19.361	19.378	19.396	19.414	19.431	19.449	19.466	19.484	19.501	19.519	19.536	1530
1540	19.536	19.554	19.571	19.589	19.607	19.624	19.642	19.659	19.677	19.695	19.712	1540
1550	19.712	19.730	19.747	19.765	19.783	19.800	19.818	19.836	19.853	19.871	19.888	1550
1560	19.888	19.906	19.924	19.941	19.959	19.977	19.994	20.012	20.030	20.047	20.065	1560
1570	20.065	20.083	20.100	20.118	20.136	20.154	20.171	20.189	20.207	20.224	20.242	1570
1580	20.242	20.260	20.278	20.295	20.313	20.331	20.349	20.366	20.384	20.402	20.420	1580
1590	20.420	20.437	20.455	20.473	20.491	20.509	20.526	20.544	20.562	20.580	20.598	1590
1600	20.598	20.615	20.633	20.651	20.669	20.687	20.704	20.722	20.740	20.758	20.776	1600
1610	20.776	20.794	20.812	20.829	20.847	20.865	20.883	20.901	20.919	20.937	20.955	1610
1620	20.955	20.972	20.990	21.008	21.026	21.044	21.062	21.080	21.098	21.116	21.134	1620
1630	21.134	21.152	21.169	21.187	21.205	21.223	21.241	21.259	21.277	21.295	21.313	1630
1640	21.313	21.331	21.349	21.367	21.385	21.403	21.421	21.439	21.457	21.475	21.493	1640
1650	21.493	21.511	21.529	21.547	21.565	21.583	21.601	21.619	21.637	21.655	21.673	1650
1660	21.673	21.691	21.709	21.727	21.745	21.763	21.781	21.800	21.818	21.836	21.854	1660
1670	21.854	21.872	21.890	21.908	21.926	21.944	21.962	21.980	21.999	22.017	22.035	1670
1680	22.035	22.053	22.071	22.089	22.107	22.125	22.144	22.162	22.180	22.198	22.216	1680
1690	22.216	22.234	22.252	22.271	22.289	22.307	22.325	22.343	22.361	22.380	22.398	1690
1700	22.398	22.416	22.434	22.452	22.471	22.489	22.507	22.525	22.543	22.562	22.580	1700
1710	22.580	22.598	22.616	22.635	22.653	22.671	22.689	22.708	22.726	22.744	22.762	1710
1720	22.762	22.781	22.799	22.817	22.835	22.854	22.872	22.890	22.909	22.927	22.945	1720
1730	22.945	22.963	22.982	23.000	23.018	23.037	23.055	23.073	23.092	23.110	23.128	1730
1740	23.128	23.147	23.165	23.183	23.202	23.220	23.238	23.257	23.275	23.293	23.312	1740
1750	23.312	23.330	23.349	23.367	23.385	23.404	23.422	23.441	23.459	23.477	23.496	1750
1760	23.496	23.514	23.533	23.551	23.569	23.588	23.606	23.625	23.643	23.661	23.680	1760
1770	23.680	23.698	23.717	23.735	23.754	23.772	23.791	23.809	23.828	23.846	23.864	1770
1780	23.864	23.883	23.901	23.920	23.938	23.957	23.975	23.994	24.012	24.031	24.049	1780
1790	24.049	24.068	24.086	24.105	24.123	24.142	24.160	24.179	24.197	24.216	24.235	1790
1800	24.235	24.253	24.272	24.290	24.309	24.327	24.346	24.364	24.383	24.401	24.420	1800
1810	24.420	24.439	24.457	24.476	24.494	24.513	24.532	24.550	24.569	24.587	24.606	1810
1820	24.606	24.625	24.643	24.662	24.680	24.699	24.718	24.736	24.755	24.773	24.792	1820
1830	24.792	24.811	24.829	24.848	24.867	24.885	24.904	24.923	24.941	24.960	24.979	1830
1840	24.979	24.997	25.016	25.035	25.053	25.072	25.091	25.109	25.128	25.147	25.165	1840
1850	25.165	25.184	25.203	25.221	25.240	25.259	25.278	25.296	25.315	25.334	25.352	1850
1860	25.352	25.371	25.390	25.409	25.427	25.446	25.465	25.484	25.502	25.521	25.540	1860
1870	25.540	25.559	25.577	25.596	25.615	25.634	25.652	25.671	25.690	25.709	25.728	1870
1880	25.728	25.746	25.765	25.784	25.803	25.822	25.840	25.859	25.878	25.897	25.916	1880
1890	25.916	25.934	25.953	25.972	25.991	26.010	26.029	26.047	26.066	26.085	26.104	1890
1900	26.104	26.123	26.142	26.160	26.179	26.198	26.217	26.236	26.255	26.274	26.293	1900
1910	26.293	26.311	26.330	26.349	26.368	26.387	26.406	26.425	26.444	26.462	26.481	1910
1920	26.481	26.500	26.519	26.538	26.557	26.576	26.595	26.614	26.633	26.652	26.671	1920
1930	26.671	26.689	26.708	26.727	26.746	26.765	26.784	26.803	26.822	26.841	26.860	1930
1940	26.860	26.879	26.898	26.917	26.936	26.955	26.974	26.993	27.012	27.031	27.050	1940
1950	27.050	27.069	27.088	27.107	27.126	27.145	27.164	27.183	27.202	27.221	27.240	1950
1960	27.240	27.259	27.278	27.297	27.316	27.335	27.354	27.373	27.392	27.411	27.430	1960
1970	27.430	27.449	27.468	27.487	27.506	27.525	27.544	27.563	27.582	27.601	27.620	1970
1980	27.620	27.640	27.659	27.678	27.697	27.716	27.735	27.754	27.773	27.792	27.811	1980
1990	27.811	27.830	27.849	27.869	27.888	27.907	27.926	27.945	27.964	27.983	28.002	1990
2000	28.002	28.021	28.040	28.060	28.079	28.098	28.117	28.136	28.155	28.174	28.194	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	28.002	28.021	28.040	28.060	28.079	28.098	28.117	28.136	28.155	28.174	28.194	2000
2010	28.194	28.213	28.232	28.251	28.270	28.289	28.308	28.328	28.347	28.366	28.385	2010
2020	28.385	28.404	28.423	28.443	28.462	28.481	28.500	28.519	28.538	28.558	28.577	2020
2030	28.577	28.596	28.615	28.634	28.654	28.673	28.692	28.711	28.730	28.750	28.769	2030
2040	28.769	28.788	28.807	28.827	28.846	28.865	28.884	28.903	28.923	28.942	28.961	2040
2050	28.961	28.980	29.000	29.019	29.038	29.057	29.077	29.096	29.115	29.134	29.154	2050
2060	29.154	29.173	29.192	29.211	29.231	29.250	29.269	29.288	29.308	29.327	29.346	2060
2070	29.346	29.366	29.385	29.404	29.423	29.443	29.462	29.481	29.501	29.520	29.539	2070
2080	29.539	29.559	29.578	29.597	29.616	29.636	29.655	29.674	29.694	29.713	29.732	2080
2090	29.732	29.752	29.771	29.790	29.810	29.829	29.848	29.868	29.887	29.906	29.926	2090
2100	29.926	29.945	29.964	29.984	30.003	30.023	30.042	30.061	30.081	30.100	30.119	2100
2110	30.119	30.139	30.158	30.178	30.197	30.216	30.236	30.255	30.274	30.294	30.313	2110
2120	30.313	30.333	30.352	30.371	30.391	30.410	30.430	30.449	30.468	30.488	30.507	2120
2130	30.507	30.527	30.546	30.565	30.585	30.604	30.624	30.643	30.663	30.682	30.701	2130
2140	30.701	30.721	30.740	30.760	30.779	30.799	30.818	30.837	30.857	30.876	30.896	2140
2150	30.896	30.915	30.935	30.954	30.974	30.993	31.013	31.032	31.051	31.071	31.090	2150
2160	31.090	31.110	31.129	31.149	31.168	31.188	31.207	31.227	31.246	31.266	31.285	2160
2170	31.285	31.305	31.324	31.344	31.363	31.383	31.402	31.422	31.441	31.461	31.480	2170
2180	31.480	31.500	31.519	31.539	31.558	31.578	31.597	31.617	31.636	31.656	31.675	2180
2190	31.675	31.695	31.714	31.734	31.753	31.773	31.793	31.812	31.832	31.851	31.871	2190
2200	31.871	31.890	31.910	31.929	31.949	31.968	31.988	32.008	32.027	32.047	32.066	2200
2210	32.066	32.086	32.105	32.125	32.144	32.164	32.184	32.203	32.223	32.242	32.262	2210
2220	32.262	32.281	32.301	32.321	32.340	32.360	32.379	32.399	32.419	32.438	32.458	2220
2230	32.458	32.477	32.497	32.517	32.536	32.556	32.575	32.595	32.615	32.634	32.654	2230
2240	32.654	32.673	32.693	32.713	32.732	32.752	32.771	32.791	32.811	32.830	32.850	2240
2250	32.850	32.870	32.889	32.909	32.928	32.948	32.968	32.987	33.007	33.027	33.046	2250
2260	33.046	33.066	33.086	33.105	33.125	33.144	33.164	33.184	33.203	33.223	33.243	2260
2270	33.243	33.262	33.282	33.302	33.321	33.341	33.361	33.380	33.400	33.420	33.439	2270
2280	33.439	33.459	33.479	33.498	33.518	33.538	33.557	33.577	33.597	33.616	33.636	2280
2290	33.636	33.656	33.675	33.695	33.715	33.735	33.754	33.774	33.794	33.813	33.833	2290
2300	33.833	33.853	33.872	33.892	33.912	33.931	33.951	33.971	33.991	34.010	34.030	2300
2310	34.030	34.050	34.069	34.089	34.109	34.129	34.148	34.168	34.188	34.207	34.227	2310
2320	34.227	34.247	34.267	34.286	34.306	34.326	34.345	34.365	34.385	34.405	34.424	2320
2330	34.424	34.444	34.464	34.484	34.503	34.523	34.543	34.563	34.582	34.602	34.622	2330
2340	34.622	34.642	34.661	34.681	34.701	34.721	34.740	34.760	34.780	34.800	34.819	2340
2350	34.819	34.839	34.859	34.879	34.898	34.918	34.938	34.958	34.977	34.997	35.017	2350
2360	35.017	35.037	35.056	35.076	35.096	35.116	35.136	35.155	35.175	35.195	35.215	2360
2370	35.215	35.234	35.254	35.274	35.294	35.314	35.333	35.353	35.373	35.393	35.412	2370
2380	35.412	35.432	35.452	35.472	35.492	35.511	35.531	35.551	35.571	35.591	35.610	2380
2390	35.610	35.630	35.650	35.670	35.690	35.709	35.729	35.749	35.769	35.789	35.808	2390
2400	35.808	35.828	35.848	35.868	35.888	35.907	35.927	35.947	35.967	35.987	36.007	2400
2410	36.007	36.026	36.046	36.066	36.086	36.106	36.125	36.145	36.165	36.185	36.205	2410
2420	36.205	36.225	36.244	36.264	36.284	36.304	36.324	36.344	36.363	36.383	36.403	2420
2430	36.403	36.423	36.443	36.462	36.482	36.502	36.522	36.542	36.562	36.582	36.601	2430
2440	36.601	36.621	36.641	36.661	36.681	36.701	36.720	36.740	36.760	36.780	36.800	2440
2450	36.800	36.820	36.839	36.859	36.879	36.899	36.919	36.939	36.959	36.978	36.998	2450
2460	36.998	37.018	37.038	37.058	37.078	37.098	37.117	37.137	37.157	37.177	37.197	2460
2470	37.197	37.217	37.237	37.256	37.276	37.296	37.316	37.336	37.356	37.376	37.395	2470
2480	37.395	37.415	37.435	37.455	37.475	37.495	37.515	37.534	37.554	37.574	37.594	2480
2490	37.594	37.614	37.634	37.654	37.674	37.693	37.713	37.733	37.753	37.773	37.793	2490
2500	37.793	37.813	37.833	37.852	37.872	37.892	37.912	37.932	37.952	37.972	37.992	2500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2500	37.793	37.813	37.833	37.852	37.872	37.892	37.912	37.932	37.952	37.972	37.992	2500
2510	37.992	38.011	38.031	38.051	38.071	38.091	38.111	38.131	38.151	38.171	38.190	2510
2520	38.190	38.210	38.230	38.250	38.270	38.290	38.310	38.330	38.349	38.369	38.389	2520
2530	38.389	38.409	38.429	38.449	38.469	38.489	38.509	38.528	38.548	38.568	38.588	2530
2540	38.588	38.608	38.628	38.648	38.668	38.688	38.707	38.727	38.747	38.767	38.787	2540
2550	38.787	38.807	38.827	38.847	38.867	38.887	38.906	38.926	38.946	38.966	38.986	2550
2560	38.986	39.006	39.026	39.046	39.066	39.086	39.105	39.125	39.145	39.165	39.185	2560
2570	39.185	39.205	39.225	39.245	39.265	39.285	39.304	39.324	39.344	39.364	39.384	2570
2580	39.384	39.404	39.424	39.444	39.464	39.484	39.503	39.523	39.543	39.563	39.583	2580
2590	39.583	39.603	39.623	39.643	39.663	39.683	39.703	39.722	39.742	39.762	39.782	2590
2600	39.782	39.802	39.822	39.842	39.862	39.882	39.902	39.921	39.941	39.961	39.981	2600
2610	39.981	40.001	40.021	40.041	40.061	40.081	40.101	40.121	40.140	40.160	40.180	2610
2620	40.180	40.200	40.220	40.240	40.260	40.280	40.300	40.320	40.340	40.360	40.379	2620
2630	40.379	40.399	40.419	40.439	40.459	40.479	40.499	40.519	40.539	40.559	40.579	2630
2640	40.579	40.598	40.618	40.638	40.658	40.678	40.698	40.718	40.738	40.758	40.778	2640
2650	40.778	40.798	40.818	40.837	40.857	40.877	40.897	40.917	40.937	40.957	40.977	2650
2660	40.977	40.997	41.017	41.037	41.057	41.076	41.096	41.116	41.136	41.156	41.176	2660
2670	41.176	41.196	41.216	41.236	41.256	41.276	41.296	41.315	41.335	41.355	41.375	2670
2680	41.375	41.395	41.415	41.435	41.455	41.475	41.495	41.515	41.535	41.554	41.574	2680
2690	41.574	41.594	41.614	41.634	41.654	41.674	41.694	41.714	41.734	41.754	41.774	2690
2700	41.774	41.794	41.813	41.833	41.853	41.873	41.893	41.913	41.933	41.953	41.973	2700
2710	41.973	41.993	42.013	42.033	42.053	42.072	42.092	42.112	42.132	42.152	42.172	2710
2720	42.172	42.192	42.212	42.232	42.252	42.272	42.292	42.312	42.331	42.351	42.371	2720
2730	42.371	42.391	42.411	42.431	42.451	42.471	42.491	42.511	42.531	42.551	42.571	2730
2740	42.571	42.591	42.610	42.630	42.650	42.670	42.690	42.710	42.730	42.750	42.770	2740
2750	42.770	42.790	42.810	42.830	42.850	42.870	42.890	42.909	42.929	42.949	42.969	2750
2760	42.969	42.989	43.009	43.029	43.049	43.069	43.089	43.109	43.129	43.149	43.169	2760
2770	43.169	43.189	43.209	43.228	43.248	43.268	43.288	43.308	43.328	43.348	43.368	2770
2780	43.368	43.388	43.408	43.428	43.448	43.468	43.488	43.508	43.528	43.548	43.568	2780
2790	43.568	43.587	43.607	43.627	43.647	43.667	43.687	43.707	43.727	43.747	43.767	2790
2800	43.767	43.787	43.807	43.827	43.847	43.867	43.887	43.907	43.927	43.947	43.967	2800
2810	43.967	43.987	44.007	44.026	44.046	44.066	44.086	44.106	44.126	44.146	44.166	2810
2820	44.166	44.186	44.206	44.226	44.246	44.266	44.286	44.306	44.326	44.346	44.366	2820
2830	44.366	44.386	44.406	44.426	44.446	44.466	44.486	44.506	44.526	44.546	44.566	2830
2840	44.566	44.586	44.606	44.626	44.646	44.666	44.686	44.706	44.726	44.746	44.766	2840
2850	44.766	44.786	44.806	44.826	44.846	44.866	44.886	44.906	44.926	44.946	44.966	2850
2860	44.966	44.986	45.006	45.026	45.046	45.066	45.086	45.106	45.126	45.146	45.166	2860
2870	45.166	45.186	45.206	45.226	45.246	45.266	45.286	45.306	45.326	45.346	45.366	2870
2880	45.366	45.386	45.406	45.426	45.446	45.466	45.486	45.506	45.526	45.547	45.567	2880
2890	45.567	45.587	45.607	45.627	45.647	45.667	45.687	45.707	45.727	45.747	45.767	2890
2900	45.767	45.787	45.807	45.827	45.848	45.868	45.888	45.908	45.928	45.948	45.968	2900
2910	45.968	45.988	46.008									2910
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 8 Platinum–5 % Molybdenum versus Platinum–0.1 % Molybdenum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum - 5% Molybdenum versus Platinum - 0.1% Molybdenum thermocouples.

32 °F to 915.8 °F

$c_0 = -1.774\ 586\ 148 \times 10^{-01}$
$c_1 = 5.248\ 704\ 382 \times 10^{-03}$
$c_2 = 9.548\ 943\ 365 \times 10^{-06}$
$c_3 = -8.862\ 899\ 880 \times 10^{-09}$
$c_4 = 1.225\ 881\ 504 \times 10^{-11}$
$c_5 = -1.458\ 755\ 767 \times 10^{-14}$
$c_6 = 1.060\ 981\ 687 \times 10^{-17}$
$c_7 = -3.297\ 258\ 246 \times 10^{-21}$

915.8 °F to 2912 °F

$c_0 = 7.784\ 154\ 881$
$c_1 = -3.229\ 037\ 254 \times 10^{-02}$
$c_2 = 8.549\ 793\ 323 \times 10^{-05}$
$c_3 = -9.376\ 904\ 820 \times 10^{-08}$
$c_4 = 6.616\ 896\ 798 \times 10^{-11}$
$c_5 = -2.963\ 007\ 741 \times 10^{-14}$
$c_6 = 8.181\ 839\ 090 \times 10^{-18}$
$c_7 = -1.275\ 092\ 189 \times 10^{-21}$
$c_8 = 8.590\ 853\ 056 \times 10^{-26}$

TABLE 9 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Thermoelectric Voltage in Millivolts											
0	0.000	0.000	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.004	0
10	0.004	0.004	0.004	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	10
20	0.007	0.008	0.008	0.009	0.009	0.009	0.010	0.010	0.010	0.011	0.011	20
30	0.011	0.012	0.012	0.012	0.013	0.013	0.014	0.014	0.014	0.015	0.015	30
40	0.015	0.016	0.016	0.016	0.017	0.017	0.018	0.018	0.018	0.019	0.019	40
50	0.019	0.020	0.020	0.020	0.021	0.021	0.022	0.022	0.022	0.023	0.023	50
60	0.023	0.024	0.024	0.025	0.025	0.025	0.026	0.026	0.027	0.027	0.027	60
70	0.027	0.028	0.028	0.029	0.029	0.030	0.030	0.030	0.031	0.031	0.032	70
80	0.032	0.032	0.033	0.033	0.034	0.034	0.034	0.035	0.035	0.036	0.036	80
90	0.036	0.037	0.037	0.038	0.038	0.038	0.039	0.039	0.040	0.040	0.041	90
100	0.041	0.041	0.042	0.042	0.043	0.043	0.043	0.044	0.044	0.045	0.045	100
110	0.045	0.046	0.046	0.047	0.047	0.048	0.048	0.049	0.049	0.050	0.050	110
120	0.050	0.051	0.051	0.052	0.052	0.052	0.053	0.053	0.054	0.054	0.055	120
130	0.055	0.055	0.056	0.056	0.057	0.057	0.058	0.058	0.059	0.059	0.060	130
140	0.060	0.060	0.061	0.061	0.062	0.063	0.063	0.064	0.064	0.065	0.065	140
150	0.065	0.066	0.066	0.067	0.067	0.068	0.068	0.069	0.069	0.070	0.070	150
160	0.070	0.071	0.071	0.072	0.072	0.073	0.074	0.074	0.075	0.075	0.076	160
170	0.076	0.076	0.077	0.077	0.078	0.079	0.079	0.080	0.080	0.081	0.081	170
180	0.081	0.082	0.082	0.083	0.084	0.084	0.085	0.085	0.086	0.086	0.087	180
190	0.087	0.088	0.088	0.089	0.089	0.090	0.091	0.091	0.092	0.092	0.093	190
200	0.093	0.093	0.094	0.095	0.095	0.096	0.096	0.097	0.098	0.098	0.099	200
210	0.099	0.100	0.100	0.101	0.101	0.102	0.103	0.103	0.104	0.104	0.105	210
220	0.105	0.106	0.106	0.107	0.108	0.108	0.109	0.110	0.110	0.111	0.111	220
230	0.111	0.112	0.113	0.113	0.114	0.115	0.115	0.116	0.117	0.117	0.118	230
240	0.118	0.119	0.119	0.120	0.121	0.121	0.122	0.123	0.123	0.124	0.125	240
250	0.125	0.125	0.126	0.127	0.127	0.128	0.129	0.129	0.130	0.131	0.132	250
260	0.132	0.132	0.133	0.134	0.134	0.135	0.136	0.136	0.137	0.138	0.139	260
270	0.139	0.139	0.140	0.141	0.141	0.142	0.143	0.144	0.144	0.145	0.146	270
280	0.146	0.147	0.147	0.148	0.149	0.150	0.150	0.151	0.152	0.153	0.153	280
290	0.153	0.154	0.155	0.156	0.156	0.157	0.158	0.159	0.159	0.160	0.161	290
300	0.161	0.162	0.163	0.163	0.164	0.165	0.166	0.166	0.167	0.168	0.169	300
310	0.169	0.170	0.170	0.171	0.172	0.173	0.174	0.175	0.175	0.176	0.177	310
320	0.177	0.178	0.179	0.179	0.180	0.181	0.182	0.183	0.184	0.184	0.185	320
330	0.185	0.186	0.187	0.188	0.189	0.189	0.190	0.191	0.192	0.193	0.194	330
340	0.194	0.195	0.195	0.196	0.197	0.198	0.199	0.200	0.201	0.202	0.202	340
350	0.202	0.203	0.204	0.205	0.206	0.207	0.208	0.209	0.210	0.211	0.211	350
360	0.211	0.212	0.213	0.214	0.215	0.216	0.217	0.218	0.219	0.220	0.221	360
370	0.221	0.222	0.223	0.223	0.224	0.225	0.226	0.227	0.228	0.229	0.230	370
380	0.230	0.231	0.232	0.233	0.234	0.235	0.236	0.237	0.238	0.239	0.240	380
390	0.240	0.241	0.242	0.243	0.244	0.245	0.246	0.247	0.248	0.249	0.250	390
400	0.250	0.251	0.252	0.253	0.254	0.255	0.256	0.257	0.258	0.259	0.260	400
410	0.260	0.261	0.262	0.263	0.264	0.265	0.266	0.267	0.268	0.269	0.270	410
420	0.270	0.271	0.272	0.273	0.274	0.276	0.277	0.278	0.279	0.280	0.281	420
430	0.281	0.282	0.283	0.284	0.285	0.286	0.287	0.289	0.290	0.291	0.292	430
440	0.292	0.293	0.294	0.295	0.296	0.297	0.299	0.300	0.301	0.302	0.303	440
450	0.303	0.304	0.305	0.306	0.308	0.309	0.310	0.311	0.312	0.313	0.315	450
460	0.315	0.316	0.317	0.318	0.319	0.320	0.322	0.323	0.324	0.325	0.326	460
470	0.326	0.327	0.329	0.330	0.331	0.332	0.333	0.335	0.336	0.337	0.338	470
480	0.338	0.339	0.341	0.342	0.343	0.344	0.346	0.347	0.348	0.349	0.351	480
490	0.351	0.352	0.353	0.354	0.356	0.357	0.358	0.359	0.361	0.362	0.363	490
500	0.363	0.364	0.366	0.367	0.368	0.369	0.371	0.372	0.373	0.375	0.376	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 9 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	0.363	0.364	0.366	0.367	0.368	0.369	0.371	0.372	0.373	0.375	0.376	500
510	0.376	0.377	0.379	0.380	0.381	0.382	0.384	0.385	0.386	0.388	0.389	510
520	0.389	0.390	0.392	0.393	0.394	0.396	0.397	0.398	0.400	0.401	0.402	520
530	0.402	0.404	0.405	0.407	0.408	0.409	0.411	0.412	0.413	0.415	0.416	530
540	0.416	0.418	0.419	0.420	0.422	0.423	0.425	0.426	0.427	0.429	0.430	540
550	0.430	0.432	0.433	0.434	0.436	0.437	0.439	0.440	0.442	0.443	0.444	550
560	0.444	0.446	0.447	0.449	0.450	0.452	0.453	0.455	0.456	0.458	0.459	560
570	0.459	0.461	0.462	0.464	0.465	0.467	0.468	0.470	0.471	0.473	0.474	570
580	0.474	0.476	0.477	0.479	0.480	0.482	0.483	0.485	0.486	0.488	0.489	580
590	0.489	0.491	0.492	0.494	0.495	0.497	0.499	0.500	0.502	0.503	0.505	590
600	0.505	0.506	0.508	0.509	0.511	0.513	0.514	0.516	0.517	0.519	0.521	600
610	0.521	0.522	0.524	0.525	0.527	0.529	0.530	0.532	0.534	0.535	0.537	610
620	0.537	0.538	0.540	0.542	0.543	0.545	0.547	0.548	0.550	0.552	0.553	620
630	0.553	0.555	0.557	0.558	0.560	0.562	0.563	0.565	0.567	0.568	0.570	630
640	0.570	0.572	0.573	0.575	0.577	0.579	0.580	0.582	0.584	0.585	0.587	640
650	0.587	0.589	0.591	0.592	0.594	0.596	0.598	0.599	0.601	0.603	0.605	650
660	0.605	0.606	0.608	0.610	0.612	0.613	0.615	0.617	0.619	0.621	0.622	660
670	0.622	0.624	0.626	0.628	0.630	0.631	0.633	0.635	0.637	0.639	0.640	670
680	0.640	0.642	0.644	0.646	0.648	0.650	0.651	0.653	0.655	0.657	0.659	680
690	0.659	0.661	0.663	0.664	0.666	0.668	0.670	0.672	0.674	0.676	0.678	690
700	0.678	0.680	0.681	0.683	0.685	0.687	0.689	0.691	0.693	0.695	0.697	700
710	0.697	0.699	0.701	0.702	0.704	0.706	0.708	0.710	0.712	0.714	0.716	710
720	0.716	0.718	0.720	0.722	0.724	0.726	0.728	0.730	0.732	0.734	0.736	720
730	0.736	0.738	0.740	0.742	0.744	0.746	0.748	0.750	0.752	0.754	0.756	730
740	0.756	0.758	0.760	0.762	0.764	0.766	0.768	0.770	0.772	0.774	0.776	740
750	0.776	0.778	0.781	0.783	0.785	0.787	0.789	0.791	0.793	0.795	0.797	750
760	0.797	0.799	0.801	0.803	0.806	0.808	0.810	0.812	0.814	0.816	0.818	760
770	0.818	0.820	0.823	0.825	0.827	0.829	0.831	0.833	0.835	0.838	0.840	770
780	0.840	0.842	0.844	0.846	0.848	0.851	0.853	0.855	0.857	0.859	0.862	780
790	0.862	0.864	0.866	0.868	0.870	0.873	0.875	0.877	0.879	0.881	0.884	790
800	0.884	0.886	0.888	0.890	0.893	0.895	0.897	0.899	0.902	0.904	0.906	800
810	0.906	0.908	0.911	0.913	0.915	0.918	0.920	0.922	0.924	0.927	0.929	810
820	0.929	0.931	0.934	0.936	0.938	0.941	0.943	0.945	0.947	0.950	0.952	820
830	0.952	0.954	0.957	0.959	0.962	0.964	0.966	0.969	0.971	0.973	0.976	830
840	0.976	0.978	0.980	0.983	0.985	0.988	0.990	0.992	0.995	0.997	1.000	840
850	1.000	1.002	1.004	1.007	1.009	1.012	1.014	1.016	1.019	1.021	1.024	850
860	1.024	1.026	1.029	1.031	1.033	1.036	1.038	1.041	1.043	1.046	1.048	860
870	1.048	1.051	1.053	1.056	1.058	1.061	1.063	1.066	1.068	1.071	1.073	870
880	1.073	1.076	1.078	1.081	1.083	1.086	1.088	1.091	1.093	1.096	1.098	880
890	1.098	1.101	1.103	1.106	1.109	1.111	1.114	1.116	1.119	1.121	1.124	890
900	1.124	1.127	1.129	1.132	1.134	1.137	1.139	1.142	1.145	1.147	1.150	900
910	1.150	1.152	1.155	1.158	1.160	1.163	1.166	1.168	1.171	1.173	1.176	910
920	1.176	1.179	1.181	1.184	1.187	1.189	1.192	1.195	1.197	1.200	1.203	920
930	1.203	1.205	1.208	1.211	1.213	1.216	1.219	1.222	1.224	1.227	1.230	930
940	1.230	1.232	1.235	1.238	1.240	1.243	1.246	1.249	1.251	1.254	1.257	940
950	1.257	1.260	1.262	1.265	1.268	1.271	1.273	1.276	1.279	1.282	1.284	950
960	1.284	1.287	1.290	1.293	1.296	1.298	1.301	1.304	1.307	1.310	1.312	960
970	1.312	1.315	1.318	1.321	1.324	1.326	1.329	1.332	1.335	1.338	1.341	970
980	1.341	1.343	1.346	1.349	1.352	1.355	1.358	1.360	1.363	1.366	1.369	980
990	1.369	1.372	1.375	1.378	1.381	1.383	1.386	1.389	1.392	1.395	1.398	990
1000	1.398	1.401	1.404	1.407	1.409	1.412	1.415	1.418	1.421	1.424	1.427	1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 9 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1000	1.398	1.401	1.404	1.407	1.409	1.412	1.415	1.418	1.421	1.424	1.427	1000
1010	1.427	1.430	1.433	1.436	1.439	1.442	1.445	1.448	1.451	1.454	1.456	1010
1020	1.456	1.459	1.462	1.465	1.468	1.471	1.474	1.477	1.480	1.483	1.486	1020
1030	1.486	1.489	1.492	1.495	1.498	1.501	1.504	1.507	1.510	1.513	1.516	1030
1040	1.516	1.519	1.522	1.525	1.528	1.531	1.535	1.538	1.541	1.544	1.547	1040
1050	1.547	1.550	1.553	1.556	1.559	1.562	1.565	1.568	1.571	1.574	1.577	1050
1060	1.577	1.581	1.584	1.587	1.590	1.593	1.596	1.599	1.602	1.605	1.609	1060
1070	1.609	1.612	1.615	1.618	1.621	1.624	1.627	1.630	1.634	1.637	1.640	1070
1080	1.640	1.643	1.646	1.649	1.653	1.656	1.659	1.662	1.665	1.668	1.672	1080
1090	1.672	1.675	1.678	1.681	1.684	1.688	1.691	1.694	1.697	1.700	1.704	1090
1100	1.704	1.707	1.710	1.713	1.717	1.720	1.723	1.726	1.729	1.733	1.736	1100
1110	1.736	1.739	1.742	1.746	1.749	1.752	1.756	1.759	1.762	1.765	1.769	1110
1120	1.769	1.772	1.775	1.779	1.782	1.785	1.788	1.792	1.795	1.798	1.802	1120
1130	1.802	1.805	1.808	1.812	1.815	1.818	1.822	1.825	1.828	1.832	1.835	1130
1140	1.835	1.838	1.842	1.845	1.848	1.852	1.855	1.858	1.862	1.865	1.869	1140
1150	1.869	1.872	1.875	1.879	1.882	1.885	1.889	1.892	1.896	1.899	1.903	1150
1160	1.903	1.906	1.909	1.913	1.916	1.920	1.923	1.926	1.930	1.933	1.937	1160
1170	1.937	1.940	1.944	1.947	1.951	1.954	1.957	1.961	1.964	1.968	1.971	1170
1180	1.971	1.975	1.978	1.982	1.985	1.989	1.992	1.996	1.999	2.003	2.006	1180
1190	2.006	2.010	2.013	2.017	2.020	2.024	2.027	2.031	2.034	2.038	2.041	1190
1200	2.041	2.045	2.049	2.052	2.056	2.059	2.063	2.066	2.070	2.073	2.077	1200
1210	2.077	2.081	2.084	2.088	2.091	2.095	2.098	2.102	2.106	2.109	2.113	1210
1220	2.113	2.116	2.120	2.124	2.127	2.131	2.134	2.138	2.142	2.145	2.149	1220
1230	2.149	2.153	2.156	2.160	2.163	2.167	2.171	2.174	2.178	2.182	2.185	1230
1240	2.185	2.189	2.193	2.196	2.200	2.204	2.207	2.211	2.215	2.218	2.222	1240
1250	2.222	2.226	2.230	2.233	2.237	2.241	2.244	2.248	2.252	2.255	2.259	1250
1260	2.259	2.263	2.267	2.270	2.274	2.278	2.282	2.285	2.289	2.293	2.297	1260
1270	2.297	2.300	2.304	2.308	2.312	2.315	2.319	2.323	2.327	2.330	2.334	1270
1280	2.334	2.338	2.342	2.346	2.349	2.353	2.357	2.361	2.364	2.368	2.372	1280
1290	2.372	2.376	2.380	2.384	2.387	2.391	2.395	2.399	2.403	2.406	2.410	1290
1300	2.410	2.414	2.418	2.422	2.426	2.430	2.433	2.437	2.441	2.445	2.449	1300
1310	2.449	2.453	2.457	2.460	2.464	2.468	2.472	2.476	2.480	2.484	2.488	1310
1320	2.488	2.492	2.495	2.499	2.503	2.507	2.511	2.515	2.519	2.523	2.527	1320
1330	2.527	2.531	2.535	2.538	2.542	2.546	2.550	2.554	2.558	2.562	2.566	1330
1340	2.566	2.570	2.574	2.578	2.582	2.586	2.590	2.594	2.598	2.602	2.606	1340
1350	2.606	2.610	2.614	2.618	2.622	2.626	2.630	2.634	2.638	2.642	2.646	1350
1360	2.646	2.650	2.654	2.658	2.662	2.666	2.670	2.674	2.678	2.682	2.686	1360
1370	2.686	2.690	2.694	2.698	2.702	2.706	2.710	2.714	2.718	2.722	2.726	1370
1380	2.726	2.730	2.734	2.738	2.742	2.746	2.750	2.755	2.759	2.763	2.767	1380
1390	2.767	2.771	2.775	2.779	2.783	2.787	2.791	2.795	2.799	2.804	2.808	1390
1400	2.808	2.812	2.816	2.820	2.824	2.828	2.832	2.836	2.841	2.845	2.849	1400
1410	2.849	2.853	2.857	2.861	2.865	2.869	2.874	2.878	2.882	2.886	2.890	1410
1420	2.890	2.894	2.899	2.903	2.907	2.911	2.915	2.919	2.923	2.928	2.932	1420
1430	2.932	2.936	2.940	2.944	2.949	2.953	2.957	2.961	2.965	2.969	2.974	1430
1440	2.974	2.978	2.982	2.986	2.990	2.995	2.999	3.003	3.007	3.012	3.016	1440
1450	3.016	3.020	3.024	3.028	3.033	3.037	3.041	3.045	3.050	3.054	3.058	1450
1460	3.058	3.062	3.067	3.071	3.075	3.079	3.084	3.088	3.092	3.096	3.101	1460
1470	3.101	3.105	3.109	3.113	3.118	3.122	3.126	3.130	3.135	3.139	3.143	1470
1480	3.143	3.148	3.152	3.156	3.160	3.165	3.169	3.173	3.178	3.182	3.186	1480
1490	3.186	3.190	3.195	3.199	3.203	3.208	3.212	3.216	3.221	3.225	3.229	1490
1500	3.229	3.234	3.238	3.242	3.247	3.251	3.255	3.260	3.264	3.268	3.273	1500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 9 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1500	3.229	3.234	3.238	3.242	3.247	3.251	3.255	3.260	3.264	3.268	3.273	**1500**
1510	3.273	3.277	3.281	3.286	3.290	3.294	3.299	3.303	3.307	3.312	3.316	**1510**
1520	3.316	3.320	3.325	3.329	3.333	3.338	3.342	3.347	3.351	3.355	3.360	**1520**
1530	3.360	3.364	3.368	3.373	3.377	3.382	3.386	3.390	3.395	3.399	3.404	**1530**
1540	3.404	3.408	3.412	3.417	3.421	3.425	3.430	3.434	3.439	3.443	3.447	**1540**
1550	3.447	3.452	3.456	3.461	3.465	3.470	3.474	3.478	3.483	3.487	3.492	**1550**
1560	3.492	3.496	3.500	3.505	3.509	3.514	3.518	3.523	3.527	3.531	3.536	**1560**
1570	3.536	3.540	3.545	3.549	3.554	3.558	3.563	3.567	3.571	3.576	3.580	**1570**
1580	3.580	3.585	3.589	3.594	3.598	3.603	3.607	3.611	3.616	3.620	3.625	**1580**
1590	3.625	3.629	3.634	3.638	3.643	3.647	3.652	3.656	3.661	3.665	3.670	**1590**
1600	3.670	3.674	3.678	3.683	3.687	3.692	3.696	3.701	3.705	3.710	3.714	**1600**
1610	3.714	3.719	3.723	3.728	3.732	3.737	3.741	3.746	3.750	3.755	3.759	**1610**
1620	3.759	3.764	3.768	3.773	3.777	3.782	3.786	3.791	3.795	3.800	3.804	**1620**
1630	3.804	3.809	3.813	3.818	3.822	3.827	3.831	3.836	3.840	3.845	3.849	**1630**
1640	3.849	3.854	3.858	3.863	3.867	3.872	3.876	3.881	3.885	3.890	3.894	**1640**
1650	3.894	3.899	3.903	3.908	3.912	3.917	3.921	3.926	3.931	3.935	3.940	**1650**
1660	3.940	3.944	3.949	3.953	3.958	3.962	3.967	3.971	3.976	3.980	3.985	**1660**
1670	3.985	3.989	3.994	3.998	4.003	4.008	4.012	4.017	4.021	4.026	4.030	**1670**
1680	4.030	4.035	4.039	4.044	4.048	4.053	4.057	4.062	4.067	4.071	4.076	**1680**
1690	4.076	4.080	4.085	4.089	4.094	4.098	4.103	4.107	4.112	4.116	4.121	**1690**
1700	4.121	4.126	4.130	4.135	4.139	4.144	4.148	4.153	4.157	4.162	4.166	**1700**
1710	4.166	4.171	4.176	4.180	4.185	4.189	4.194	4.198	4.203	4.207	4.212	**1710**
1720	4.212	4.216	4.221	4.226	4.230	4.235	4.239	4.244	4.248	4.253	4.257	**1720**
1730	4.257	4.262	4.266	4.271	4.276	4.280	4.285	4.289	4.294	4.298	4.303	**1730**
1740	4.303	4.307	4.312	4.317	4.321	4.326	4.330	4.335	4.339	4.344	4.348	**1740**
1750	4.348	4.353	4.357	4.362	4.366	4.371	4.376	4.380	4.385	4.389	4.394	**1750**
1760	4.394	4.398	4.403	4.407	4.412	4.416	4.421	4.426	4.430	4.435	4.439	**1760**
1770	4.439	4.444	4.448	4.453	4.457	4.462	4.466	4.471	4.475	4.480	4.484	**1770**
1780	4.484	4.489	4.494	4.498	4.503	4.507	4.512	4.516	4.521	4.525	4.530	**1780**
1790	4.530	4.534	4.539	4.543	4.548	4.552	4.557	4.561	4.566	4.571	4.575	**1790**
1800	4.575	4.580	4.584	4.589	4.593	4.598	4.602	4.607	4.611	4.616	4.620	**1800**
1810	4.620	4.625	4.629	4.634	4.638	4.643	4.647	4.652	4.656	4.661	4.665	**1810**
1820	4.665	4.670	4.674	4.679	4.683	4.688	4.692	4.697	4.701	4.706	4.710	**1820**
1830	4.710	4.715	4.719	4.724	4.728	4.733	4.737	4.742	4.746	4.751	4.755	**1830**
1840	4.755	4.760	4.764	4.768	4.773	4.777	4.782	4.786	4.791	4.795	4.800	**1840**
1850	4.800	4.804	4.809	4.813	4.818	4.822	4.827	4.831	4.835	4.840	4.844	**1850**
1860	4.844	4.849	4.853	4.858	4.862	4.867	4.871	4.875	4.880	4.884	4.889	**1860**
1870	4.889	4.893	4.898	4.902	4.907	4.911	4.915	4.920	4.924	4.929	4.933	**1870**
1880	4.933	4.938	4.942	4.946	4.951	4.955	4.960	4.964	4.968			**1880**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

TABLE 9 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum 40% Rhodium versus Platinum - 20% Rhodium thermocouples.

0 °C to 951.7 °C			951.7 °C to 1888 °C		
c_0	=	0.000 000 0	c_0	=	$-9.120\ 187\ 7 \times 10^{-01}$
c_1	=	$3.624\ 628\ 9 \times 10^{-04}$	c_1	=	$3.524\ 693\ 1 \times 10^{-03}$
c_2	=	$3.936\ 032\ 0 \times 10^{-07}$	c_2	=	$-3.907\ 744\ 2 \times 10^{-06}$
c_3	=	$4.259\ 413\ 7 \times 10^{-10}$	c_3	=	$3.672\ 869\ 7 \times 10^{-09}$
c_4	=	$1.038\ 298\ 5 \times 10^{-12}$	c_4	=	$-1.082\ 471\ 0 \times 10^{-12}$
c_5	=	$-1.540\ 693\ 9 \times 10^{-15}$	c_5	=	$1.151\ 628\ 0 \times 10^{-16}$
c_6	=	$1.003\ 397\ 4 \times 10^{-18}$	c_6	=	$-1.261\ 964\ 0 \times 10^{-20}$
c_7	=	$-2.849\ 716\ 0 \times 10^{-22}$			

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
30			0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.002	30
40	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	40
50	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	50
60	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008	60
70	0.008	0.008	0.008	0.008	0.009	0.009	0.009	0.009	0.010	0.010	0.010	70
80	0.010	0.010	0.010	0.011	0.011	0.011	0.011	0.011	0.012	0.012	0.012	80
90	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.014	0.014	0.014	0.014	90
100	0.014	0.014	0.015	0.015	0.015	0.015	0.016	0.016	0.016	0.016	0.016	100
110	0.016	0.017	0.017	0.017	0.017	0.018	0.018	0.018	0.018	0.018	0.019	110
120	0.019	0.019	0.019	0.019	0.020	0.020	0.020	0.020	0.021	0.021	0.021	120
130	0.021	0.021	0.021	0.022	0.022	0.022	0.022	0.023	0.023	0.023	0.023	130
140	0.023	0.023	0.024	0.024	0.024	0.024	0.025	0.025	0.025	0.025	0.026	140
150	0.026	0.026	0.026	0.026	0.027	0.027	0.027	0.027	0.027	0.028	0.028	150
160	0.028	0.028	0.028	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.030	160
170	0.030	0.031	0.031	0.031	0.031	0.032	0.032	0.032	0.032	0.032	0.033	170
180	0.033	0.033	0.033	0.033	0.034	0.034	0.034	0.034	0.035	0.035	0.035	180
190	0.035	0.035	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.038	190
200	0.038	0.038	0.038	0.038	0.039	0.039	0.039	0.039	0.040	0.040	0.040	200
210	0.040	0.040	0.041	0.041	0.041	0.041	0.042	0.042	0.042	0.042	0.043	210
220	0.043	0.043	0.043	0.044	0.044	0.044	0.044	0.045	0.045	0.045	0.045	220
230	0.045	0.046	0.046	0.046	0.046	0.047	0.047	0.047	0.047	0.048	0.048	230
240	0.048	0.048	0.048	0.049	0.049	0.049	0.050	0.050	0.050	0.050	0.051	240
250	0.051	0.051	0.051	0.051	0.052	0.052	0.052	0.052	0.053	0.053	0.053	250
260	0.053	0.054	0.054	0.054	0.054	0.055	0.055	0.055	0.056	0.056	0.056	260
270	0.056	0.056	0.057	0.057	0.057	0.057	0.058	0.058	0.058	0.059	0.059	270
280	0.059	0.059	0.059	0.060	0.060	0.060	0.061	0.061	0.061	0.061	0.062	280
290	0.062	0.062	0.062	0.063	0.063	0.063	0.063	0.064	0.064	0.064	0.065	290
300	0.065	0.065	0.065	0.065	0.066	0.066	0.066	0.067	0.067	0.067	0.067	300
310	0.067	0.068	0.068	0.068	0.069	0.069	0.069	0.069	0.070	0.070	0.070	310
320	0.070	0.071	0.071	0.071	0.072	0.072	0.072	0.072	0.073	0.073	0.073	320
330	0.073	0.074	0.074	0.074	0.075	0.075	0.075	0.075	0.076	0.076	0.076	330
340	0.076	0.077	0.077	0.077	0.078	0.078	0.078	0.079	0.079	0.079	0.079	340
350	0.079	0.080	0.080	0.080	0.081	0.081	0.081	0.082	0.082	0.082	0.083	350
360	0.083	0.083	0.083	0.084	0.084	0.084	0.084	0.085	0.085	0.085	0.086	360
370	0.086	0.086	0.086	0.087	0.087	0.087	0.088	0.088	0.088	0.089	0.089	370
380	0.089	0.089	0.090	0.090	0.090	0.091	0.091	0.091	0.092	0.092	0.092	380
390	0.092	0.093	0.093	0.093	0.094	0.094	0.094	0.095	0.095	0.095	0.096	390
400	0.096	0.096	0.096	0.097	0.097	0.097	0.098	0.098	0.098	0.099	0.099	400
410	0.099	0.099	0.100	0.100	0.100	0.101	0.101	0.101	0.102	0.102	0.102	410
420	0.102	0.103	0.103	0.103	0.104	0.104	0.104	0.105	0.105	0.105	0.106	420
430	0.106	0.106	0.106	0.107	0.107	0.108	0.108	0.108	0.109	0.109	0.109	430
440	0.109	0.110	0.110	0.110	0.111	0.111	0.111	0.112	0.112	0.112	0.113	440
450	0.113	0.113	0.114	0.114	0.114	0.115	0.115	0.115	0.116	0.116	0.116	450
460	0.116	0.117	0.117	0.118	0.118	0.118	0.119	0.119	0.119	0.120	0.120	460
470	0.120	0.121	0.121	0.121	0.122	0.122	0.122	0.123	0.123	0.124	0.124	470
480	0.124	0.124	0.125	0.125	0.125	0.126	0.126	0.127	0.127	0.127	0.128	480
490	0.128	0.128	0.128	0.129	0.129	0.130	0.130	0.130	0.131	0.131	0.132	490
500	0.132	0.132	0.132	0.133	0.133	0.133	0.134	0.134	0.135	0.135	0.135	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
500	0.132	0.132	0.132	0.133	0.133	0.133	0.134	0.134	0.135	0.135	0.135	500
510	0.135	0.136	0.136	0.137	0.137	0.137	0.138	0.138	0.139	0.139	0.139	510
520	0.139	0.140	0.140	0.141	0.141	0.141	0.142	0.142	0.143	0.143	0.143	520
530	0.143	0.144	0.144	0.145	0.145	0.145	0.146	0.146	0.147	0.147	0.148	530
540	0.148	0.148	0.148	0.149	0.149	0.150	0.150	0.150	0.151	0.151	0.152	540
550	0.152	0.152	0.152	0.153	0.153	0.154	0.154	0.155	0.155	0.155	0.156	550
560	0.156	0.156	0.157	0.157	0.158	0.158	0.158	0.159	0.159	0.160	0.160	560
570	0.160	0.161	0.161	0.161	0.162	0.162	0.163	0.163	0.164	0.164	0.164	570
580	0.164	0.165	0.165	0.166	0.166	0.167	0.167	0.168	0.168	0.168	0.169	580
590	0.169	0.169	0.170	0.170	0.171	0.171	0.172	0.172	0.172	0.173	0.173	590
600	0.173	0.174	0.174	0.175	0.175	0.176	0.176	0.176	0.177	0.177	0.178	600
610	0.178	0.178	0.179	0.179	0.180	0.180	0.181	0.181	0.182	0.182	0.182	610
620	0.182	0.183	0.183	0.184	0.184	0.185	0.185	0.186	0.186	0.187	0.187	620
630	0.187	0.188	0.188	0.189	0.189	0.189	0.190	0.190	0.191	0.191	0.192	630
640	0.192	0.192	0.193	0.193	0.194	0.194	0.195	0.195	0.196	0.196	0.197	640
650	0.197	0.197	0.198	0.198	0.199	0.199	0.200	0.200	0.201	0.201	0.202	650
660	0.202	0.202	0.202	0.203	0.203	0.204	0.204	0.205	0.205	0.206	0.206	660
670	0.206	0.207	0.207	0.208	0.208	0.209	0.209	0.210	0.210	0.211	0.211	670
680	0.211	0.212	0.212	0.213	0.213	0.214	0.214	0.215	0.216	0.216	0.217	680
690	0.217	0.217	0.218	0.218	0.219	0.219	0.220	0.220	0.221	0.221	0.222	690
700	0.222	0.222	0.223	0.223	0.224	0.224	0.225	0.225	0.226	0.226	0.227	700
710	0.227	0.227	0.228	0.228	0.229	0.230	0.230	0.231	0.231	0.232	0.232	710
720	0.232	0.233	0.233	0.234	0.234	0.235	0.235	0.236	0.237	0.237	0.238	720
730	0.238	0.238	0.239	0.239	0.240	0.240	0.241	0.241	0.242	0.242	0.243	730
740	0.243	0.244	0.244	0.245	0.245	0.246	0.246	0.247	0.247	0.248	0.249	740
750	0.249	0.249	0.250	0.250	0.251	0.251	0.252	0.252	0.253	0.254	0.254	750
760	0.254	0.255	0.255	0.256	0.256	0.257	0.258	0.258	0.259	0.259	0.260	760
770	0.260	0.260	0.261	0.262	0.262	0.263	0.263	0.264	0.264	0.265	0.266	770
780	0.266	0.266	0.267	0.267	0.268	0.268	0.269	0.270	0.270	0.271	0.271	780
790	0.271	0.272	0.273	0.273	0.274	0.274	0.275	0.276	0.276	0.277	0.277	790
800	0.277	0.278	0.279	0.279	0.280	0.280	0.281	0.282	0.282	0.283	0.283	800
810	0.283	0.284	0.285	0.285	0.286	0.286	0.287	0.288	0.288	0.289	0.289	810
820	0.289	0.290	0.291	0.291	0.292	0.292	0.293	0.294	0.294	0.295	0.296	820
830	0.296	0.296	0.297	0.297	0.298	0.299	0.299	0.300	0.301	0.301	0.302	830
840	0.302	0.302	0.303	0.304	0.304	0.305	0.306	0.306	0.307	0.307	0.308	840
850	0.308	0.309	0.309	0.310	0.311	0.311	0.312	0.313	0.313	0.314	0.315	850
860	0.315	0.315	0.316	0.316	0.317	0.318	0.318	0.319	0.320	0.320	0.321	860
870	0.321	0.322	0.322	0.323	0.324	0.324	0.325	0.326	0.326	0.327	0.328	870
880	0.328	0.328	0.329	0.330	0.330	0.331	0.332	0.332	0.333	0.334	0.334	880
890	0.334	0.335	0.336	0.336	0.337	0.338	0.338	0.339	0.340	0.340	0.341	890
900	0.341	0.342	0.342	0.343	0.344	0.344	0.345	0.346	0.346	0.347	0.348	900
910	0.348	0.348	0.349	0.350	0.351	0.351	0.352	0.353	0.353	0.354	0.355	910
920	0.355	0.355	0.356	0.357	0.357	0.358	0.359	0.360	0.360	0.361	0.362	920
930	0.362	0.362	0.363	0.364	0.364	0.365	0.366	0.367	0.367	0.368	0.369	930
940	0.369	0.369	0.370	0.371	0.372	0.372	0.373	0.374	0.374	0.375	0.376	940
950	0.376	0.377	0.377	0.378	0.379	0.380	0.380	0.381	0.382	0.382	0.383	950
960	0.383	0.384	0.385	0.385	0.386	0.387	0.388	0.388	0.389	0.390	0.391	960
970	0.391	0.391	0.392	0.393	0.393	0.394	0.395	0.396	0.396	0.397	0.398	970
980	0.398	0.399	0.399	0.400	0.401	0.402	0.402	0.403	0.404	0.405	0.405	980
990	0.405	0.406	0.407	0.408	0.409	0.409	0.410	0.411	0.412	0.412	0.413	990
1000	0.413	0.414	0.415	0.415	0.416	0.417	0.418	0.418	0.419	0.420	0.421	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	0.413	0.414	0.415	0.415	0.416	0.417	0.418	0.418	0.419	0.420	0.421	100
1010	0.421	0.422	0.422	0.423	0.424	0.425	0.425	0.426	0.427	0.428	0.429	101
1020	0.429	0.429	0.430	0.431	0.432	0.433	0.433	0.434	0.435	0.436	0.437	102
1030	0.437	0.437	0.438	0.439	0.440	0.440	0.441	0.442	0.443	0.444	0.444	103
1040	0.444	0.445	0.446	0.447	0.448	0.449	0.449	0.450	0.451	0.452	0.453	104
1050	0.453	0.453	0.454	0.455	0.456	0.457	0.457	0.458	0.459	0.460	0.461	105
1060	0.461	0.462	0.462	0.463	0.464	0.465	0.466	0.467	0.467	0.468	0.469	106
1070	0.469	0.470	0.471	0.472	0.472	0.473	0.474	0.475	0.476	0.477	0.477	107
1080	0.477	0.478	0.479	0.480	0.481	0.482	0.482	0.483	0.484	0.485	0.486	108
1090	0.486	0.487	0.488	0.488	0.489	0.490	0.491	0.492	0.493	0.494	0.494	109
1100	0.494	0.495	0.496	0.497	0.498	0.499	0.500	0.500	0.501	0.502	0.503	110
1110	0.503	0.504	0.505	0.506	0.507	0.507	0.508	0.509	0.510	0.511	0.512	111
1120	0.512	0.513	0.514	0.514	0.515	0.516	0.517	0.518	0.519	0.520	0.521	112
1130	0.521	0.522	0.522	0.523	0.524	0.525	0.526	0.527	0.528	0.529	0.530	113
1140	0.530	0.530	0.531	0.532	0.533	0.534	0.535	0.536	0.537	0.538	0.539	114
1150	0.539	0.539	0.540	0.541	0.542	0.543	0.544	0.545	0.546	0.547	0.548	115
1160	0.548	0.549	0.550	0.550	0.551	0.552	0.553	0.554	0.555	0.556	0.557	116
1170	0.557	0.558	0.559	0.560	0.561	0.562	0.563	0.563	0.564	0.565	0.566	117
1180	0.566	0.567	0.568	0.569	0.570	0.571	0.572	0.573	0.574	0.575	0.576	118
1190	0.576	0.577	0.578	0.579	0.580	0.580	0.581	0.582	0.583	0.584	0.585	119
1200	0.585	0.586	0.587	0.588	0.589	0.590	0.591	0.592	0.593	0.594	0.595	120
1210	0.595	0.596	0.597	0.598	0.599	0.600	0.601	0.602	0.603	0.604	0.605	121
1220	0.605	0.606	0.607	0.608	0.609	0.609	0.610	0.611	0.612	0.613	0.614	122
1230	0.614	0.615	0.616	0.617	0.618	0.619	0.620	0.621	0.622	0.623	0.624	123
1240	0.624	0.625	0.626	0.627	0.628	0.629	0.630	0.631	0.632	0.633	0.634	124
1250	0.634	0.635	0.636	0.637	0.638	0.639	0.640	0.641	0.642	0.643	0.645	125
1260	0.645	0.646	0.647	0.648	0.649	0.650	0.651	0.652	0.653	0.654	0.655	126
1270	0.655	0.656	0.657	0.658	0.659	0.660	0.661	0.662	0.663	0.664	0.665	127
1280	0.665	0.666	0.667	0.668	0.669	0.670	0.671	0.672	0.673	0.674	0.676	128
1290	0.676	0.677	0.678	0.679	0.680	0.681	0.682	0.683	0.684	0.685	0.686	129
1300	0.686	0.687	0.688	0.689	0.690	0.691	0.692	0.693	0.695	0.696	0.697	130
1310	0.697	0.698	0.699	0.700	0.701	0.702	0.703	0.704	0.705	0.706	0.707	131
1320	0.707	0.709	0.710	0.711	0.712	0.713	0.714	0.715	0.716	0.717	0.718	132
1330	0.718	0.719	0.720	0.722	0.723	0.724	0.725	0.726	0.727	0.728	0.729	133
1340	0.729	0.730	0.731	0.733	0.734	0.735	0.736	0.737	0.738	0.739	0.740	134
1350	0.740	0.741	0.743	0.744	0.745	0.746	0.747	0.748	0.749	0.750	0.751	135
1360	0.751	0.753	0.754	0.755	0.756	0.757	0.758	0.759	0.760	0.762	0.763	136
1370	0.763	0.764	0.765	0.766	0.767	0.768	0.770	0.771	0.772	0.773	0.774	137
1380	0.774	0.775	0.776	0.778	0.779	0.780	0.781	0.782	0.783	0.784	0.786	138
1390	0.786	0.787	0.788	0.789	0.790	0.791	0.793	0.794	0.795	0.796	0.797	139
1400	0.797	0.798	0.799	0.801	0.802	0.803	0.804	0.805	0.807	0.808	0.809	1400
1410	0.809	0.810	0.811	0.812	0.814	0.815	0.816	0.817	0.818	0.819	0.821	1410
1420	0.821	0.822	0.823	0.824	0.825	0.827	0.828	0.829	0.830	0.831	0.833	1420
1430	0.833	0.834	0.835	0.836	0.837	0.839	0.840	0.841	0.842	0.843	0.845	1430
1440	0.845	0.846	0.847	0.848	0.849	0.851	0.852	0.853	0.854	0.855	0.857	1440
1450	0.857	0.858	0.859	0.860	0.862	0.863	0.864	0.865	0.866	0.868	0.869	1450
1460	0.869	0.870	0.871	0.873	0.874	0.875	0.876	0.877	0.879	0.880	0.881	1460
1470	0.881	0.882	0.884	0.885	0.886	0.887	0.889	0.890	0.891	0.892	0.894	1470
1480	0.894	0.895	0.896	0.897	0.899	0.900	0.901	0.902	0.904	0.905	0.906	1480
1490	0.906	0.907	0.909	0.910	0.911	0.912	0.914	0.915	0.916	0.918	0.919	1490
1500	0.919	0.920	0.921	0.923	0.924	0.925	0.926	0.928	0.929	0.930	0.932	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1500	0.919	0.920	0.921	0.923	0.924	0.925	0.926	0.928	0.929	0.930	0.932	1500
1510	0.932	0.933	0.934	0.935	0.937	0.938	0.939	0.941	0.942	0.943	0.944	1510
1520	0.944	0.946	0.947	0.948	0.950	0.951	0.952	0.953	0.955	0.956	0.957	1520
1530	0.957	0.959	0.960	0.961	0.963	0.964	0.965	0.966	0.968	0.969	0.970	1530
1540	0.970	0.972	0.973	0.974	0.976	0.977	0.978	0.980	0.981	0.982	0.984	1540
1550	0.984	0.985	0.986	0.988	0.989	0.990	0.992	0.993	0.994	0.996	0.997	1550
1560	0.997	0.998	1.000	1.001	1.002	1.004	1.005	1.006	1.008	1.009	1.010	1560
1570	1.010	1.012	1.013	1.014	1.016	1.017	1.018	1.020	1.021	1.022	1.024	1570
1580	1.024	1.025	1.026	1.028	1.029	1.030	1.032	1.033	1.035	1.036	1.037	1580
1590	1.037	1.039	1.040	1.041	1.043	1.044	1.046	1.047	1.048	1.050	1.051	1590
1600	1.051	1.052	1.054	1.055	1.057	1.058	1.059	1.061	1.062	1.063	1.065	1600
1610	1.065	1.066	1.068	1.069	1.070	1.072	1.073	1.075	1.076	1.077	1.079	1610
1620	1.079	1.080	1.082	1.083	1.084	1.086	1.087	1.089	1.090	1.091	1.093	1620
1630	1.093	1.094	1.096	1.097	1.098	1.100	1.101	1.103	1.104	1.105	1.107	1630
1640	1.107	1.108	1.110	1.111	1.113	1.114	1.115	1.117	1.118	1.120	1.121	1640
1650	1.121	1.123	1.124	1.125	1.127	1.128	1.130	1.131	1.133	1.134	1.135	1650
1660	1.135	1.137	1.138	1.140	1.141	1.143	1.144	1.146	1.147	1.148	1.150	1660
1670	1.150	1.151	1.153	1.154	1.156	1.157	1.159	1.160	1.161	1.163	1.164	1670
1680	1.164	1.166	1.167	1.169	1.170	1.172	1.173	1.175	1.176	1.178	1.179	1680
1690	1.179	1.181	1.182	1.183	1.185	1.186	1.188	1.189	1.191	1.192	1.194	1690
1700	1.194	1.195	1.197	1.198	1.200	1.201	1.203	1.204	1.206	1.207	1.209	1700
1710	1.209	1.210	1.212	1.213	1.215	1.216	1.218	1.219	1.221	1.222	1.224	1710
1720	1.224	1.225	1.227	1.228	1.230	1.231	1.233	1.234	1.236	1.237	1.239	1720
1730	1.239	1.240	1.242	1.243	1.245	1.246	1.248	1.249	1.251	1.252	1.254	1730
1740	1.254	1.255	1.257	1.258	1.260	1.261	1.263	1.265	1.266	1.268	1.269	1740
1750	1.269	1.271	1.272	1.274	1.275	1.277	1.278	1.280	1.281	1.283	1.284	1750
1760	1.284	1.286	1.288	1.289	1.291	1.292	1.294	1.295	1.297	1.298	1.300	1760
1770	1.300	1.301	1.303	1.305	1.306	1.308	1.309	1.311	1.312	1.314	1.315	1770
1780	1.315	1.317	1.319	1.320	1.322	1.323	1.325	1.326	1.328	1.330	1.331	1780
1790	1.331	1.333	1.334	1.336	1.337	1.339	1.341	1.342	1.344	1.345	1.347	1790
1800	1.347	1.348	1.350	1.352	1.353	1.355	1.356	1.358	1.360	1.361	1.363	1800
1810	1.363	1.364	1.366	1.367	1.369	1.371	1.372	1.374	1.375	1.377	1.379	1810
1820	1.379	1.380	1.382	1.383	1.385	1.387	1.388	1.390	1.391	1.393	1.395	1820
1830	1.395	1.396	1.398	1.399	1.401	1.403	1.404	1.406	1.408	1.409	1.411	1830
1840	1.411	1.412	1.414	1.416	1.417	1.419	1.421	1.422	1.424	1.425	1.427	1840
1850	1.427	1.429	1.430	1.432	1.434	1.435	1.437	1.438	1.440	1.442	1.443	1850
1860	1.443	1.445	1.447	1.448	1.450	1.452	1.453	1.455	1.456	1.458	1.460	1860
1870	1.460	1.461	1.463	1.465	1.466	1.468	1.470	1.471	1.473	1.475	1.476	1870
1880	1.476	1.478	1.480	1.481	1.483	1.485	1.486	1.488	1.490	1.491	1.493	1880
1890	1.493	1.495	1.496	1.498	1.500	1.501	1.503	1.505	1.506	1.508	1.510	1890
1900	1.510	1.511	1.513	1.515	1.516	1.518	1.520	1.521	1.523	1.525	1.526	1900
1910	1.526	1.528	1.530	1.531	1.533	1.535	1.537	1.538	1.540	1.542	1.543	1910
1920	1.543	1.545	1.547	1.548	1.550	1.552	1.554	1.555	1.557	1.559	1.560	1920
1930	1.560	1.562	1.564	1.565	1.567	1.569	1.571	1.572	1.574	1.576	1.577	1930
1940	1.577	1.579	1.581	1.583	1.584	1.586	1.588	1.590	1.591	1.593	1.595	1940
1950	1.595	1.596	1.598	1.600	1.602	1.603	1.605	1.607	1.609	1.610	1.612	1950
1960	1.612	1.614	1.615	1.617	1.619	1.621	1.622	1.624	1.626	1.628	1.629	1960
1970	1.629	1.631	1.633	1.635	1.636	1.638	1.640	1.642	1.643	1.645	1.647	1970
1980	1.647	1.649	1.650	1.652	1.654	1.656	1.657	1.659	1.661	1.663	1.665	1980
1990	1.665	1.666	1.668	1.670	1.672	1.673	1.675	1.677	1.679	1.680	1.682	1990
2000	1.682	1.684	1.686	1.688	1.689	1.691	1.693	1.695	1.696	1.698	1.700	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	1.682	1.684	1.686	1.688	1.689	1.691	1.693	1.695	1.696	1.698	1.700	**2000**
2010	1.700	1.702	1.704	1.705	1.707	1.709	1.711	1.713	1.714	1.716	1.718	**2010**
2020	1.718	1.720	1.722	1.723	1.725	1.727	1.729	1.731	1.732	1.734	1.736	**2020**
2030	1.736	1.738	1.740	1.741	1.743	1.745	1.747	1.749	1.750	1.752	1.754	**2030**
2040	1.754	1.756	1.758	1.760	1.761	1.763	1.765	1.767	1.769	1.770	1.772	**2040**
2050	1.772	1.774	1.776	1.778	1.780	1.781	1.783	1.785	1.787	1.789	1.791	**2050**
2060	1.791	1.792	1.794	1.796	1.798	1.800	1.802	1.803	1.805	1.807	1.809	**2060**
2070	1.809	1.811	1.813	1.815	1.816	1.818	1.820	1.822	1.824	1.826	1.828	**2070**
2080	1.828	1.829	1.831	1.833	1.835	1.837	1.839	1.841	1.842	1.844	1.846	**2080**
2090	1.846	1.848	1.850	1.852	1.854	1.855	1.857	1.859	1.861	1.863	1.865	**2090**
2100	1.865	1.867	1.869	1.870	1.872	1.874	1.876	1.878	1.880	1.882	1.884	**2100**
2110	1.884	1.885	1.887	1.889	1.891	1.893	1.895	1.897	1.899	1.901	1.903	**2110**
2120	1.903	1.904	1.906	1.908	1.910	1.912	1.914	1.916	1.918	1.920	1.921	**2120**
2130	1.921	1.923	1.925	1.927	1.929	1.931	1.933	1.935	1.937	1.939	1.941	**2130**
2140	1.941	1.943	1.944	1.946	1.948	1.950	1.952	1.954	1.956	1.958	1.960	**2140**
2150	1.960	1.962	1.964	1.966	1.967	1.969	1.971	1.973	1.975	1.977	1.979	**2150**
2160	1.979	1.981	1.983	1.985	1.987	1.989	1.991	1.993	1.995	1.997	1.998	**2160**
2170	1.998	2.000	2.002	2.004	2.006	2.008	2.010	2.012	2.014	2.016	2.018	**2170**
2180	2.018	2.020	2.022	2.024	2.026	2.028	2.030	2.032	2.034	2.036	2.038	**2180**
2190	2.038	2.039	2.041	2.043	2.045	2.047	2.049	2.051	2.053	2.055	2.057	**2190**
2200	2.057	2.059	2.061	2.063	2.065	2.067	2.069	2.071	2.073	2.075	2.077	**2200**
2210	2.077	2.079	2.081	2.083	2.085	2.087	2.089	2.091	2.093	2.095	2.097	**2210**
2220	2.097	2.099	2.101	2.103	2.105	2.107	2.109	2.111	2.113	2.115	2.117	**2220**
2230	2.117	2.119	2.121	2.123	2.125	2.127	2.129	2.131	2.133	2.135	2.137	**2230**
2240	2.137	2.139	2.141	2.143	2.145	2.147	2.149	2.151	2.153	2.155	2.157	**2240**
2250	2.157	2.159	2.161	2.163	2.165	2.167	2.169	2.171	2.173	2.175	2.177	**2250**
2260	2.177	2.179	2.181	2.183	2.185	2.187	2.189	2.191	2.194	2.196	2.198	**2260**
2270	2.198	2.200	2.202	2.204	2.206	2.208	2.210	2.212	2.214	2.216	2.218	**2270**
2280	2.218	2.220	2.222	2.224	2.226	2.228	2.230	2.232	2.234	2.237	2.239	**2280**
2290	2.239	2.241	2.243	2.245	2.247	2.249	2.251	2.253	2.255	2.257	2.259	**2290**
2300	2.259	2.261	2.263	2.265	2.267	2.270	2.272	2.274	2.276	2.278	2.280	**2300**
2310	2.280	2.282	2.284	2.286	2.288	2.290	2.292	2.294	2.297	2.299	2.301	**2310**
2320	2.301	2.303	2.305	2.307	2.309	2.311	2.313	2.315	2.317	2.319	2.322	**2320**
2330	2.322	2.324	2.326	2.328	2.330	2.332	2.334	2.336	2.338	2.340	2.343	**2330**
2340	2.343	2.345	2.347	2.349	2.351	2.353	2.355	2.357	2.359	2.362	2.364	**2340**
2350	2.364	2.366	2.368	2.370	2.372	2.374	2.376	2.378	2.381	2.383	2.385	**2350**
2360	2.385	2.387	2.389	2.391	2.393	2.395	2.398	2.400	2.402	2.404	2.406	**2360**
2370	2.406	2.408	2.410	2.412	2.415	2.417	2.419	2.421	2.423	2.425	2.427	**2370**
2380	2.427	2.430	2.432	2.434	2.436	2.438	2.440	2.442	2.445	2.447	2.449	**2380**
2390	2.449	2.451	2.453	2.455	2.457	2.460	2.462	2.464	2.466	2.468	2.470	**2390**
2400	2.470	2.473	2.475	2.477	2.479	2.481	2.483	2.485	2.488	2.490	2.492	**2400**
2410	2.492	2.494	2.496	2.498	2.501	2.503	2.505	2.507	2.509	2.511	2.514	**2410**
2420	2.514	2.516	2.518	2.520	2.522	2.525	2.527	2.529	2.531	2.533	2.535	**2420**
2430	2.535	2.538	2.540	2.542	2.544	2.546	2.549	2.551	2.553	2.555	2.557	**2430**
2440	2.557	2.559	2.562	2.564	2.566	2.568	2.570	2.573	2.575	2.577	2.579	**2440**
2450	2.579	2.581	2.584	2.586	2.588	2.590	2.592	2.595	2.597	2.599	2.601	**2450**
2460	2.601	2.603	2.606	2.608	2.610	2.612	2.614	2.617	2.619	2.621	2.623	**2460**
2470	2.623	2.626	2.628	2.630	2.632	2.634	2.637	2.639	2.641	2.643	2.646	**2470**
2480	2.646	2.648	2.650	2.652	2.654	2.657	2.659	2.661	2.663	2.666	2.668	**2480**
2490	2.668	2.670	2.672	2.675	2.677	2.679	2.681	2.683	2.686	2.688	2.690	**2490**
2500	2.690	2.692	2.695	2.697	2.699	2.701	2.704	2.706	2.708	2.710	2.713	**2500**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2500	2.690	2.692	2.695	2.697	2.699	2.701	2.704	2.706	2.708	2.710	2.713	**2500**
2510	2.713	2.715	2.717	2.719	2.722	2.724	2.726	2.728	2.731	2.733	2.735	**2510**
2520	2.735	2.737	2.740	2.742	2.744	2.746	2.749	2.751	2.753	2.755	2.758	**2520**
2530	2.758	2.760	2.762	2.764	2.767	2.769	2.771	2.774	2.776	2.778	2.780	**2530**
2540	2.780	2.783	2.785	2.787	2.789	2.792	2.794	2.796	2.799	2.801	2.803	**2540**
2550	2.803	2.805	2.808	2.810	2.812	2.815	2.817	2.819	2.821	2.824	2.826	**2550**
2560	2.826	2.828	2.830	2.833	2.835	2.837	2.840	2.842	2.844	2.847	2.849	**2560**
2570	2.849	2.851	2.853	2.856	2.858	2.860	2.863	2.865	2.867	2.869	2.872	**2570**
2580	2.872	2.874	2.876	2.879	2.881	2.883	2.886	2.888	2.890	2.893	2.895	**2580**
2590	2.895	2.897	2.899	2.902	2.904	2.906	2.909	2.911	2.913	2.916	2.918	**2590**
2600	2.918	2.920	2.923	2.925	2.927	2.930	2.932	2.934	2.936	2.939	2.941	**2600**
2610	2.941	2.943	2.946	2.948	2.950	2.953	2.955	2.957	2.960	2.962	2.964	**2610**
2620	2.964	2.967	2.969	2.971	2.974	2.976	2.978	2.981	2.983	2.985	2.988	**2620**
2630	2.988	2.990	2.992	2.995	2.997	2.999	3.002	3.004	3.006	3.009	3.011	**2630**
2640	3.011	3.013	3.016	3.018	3.020	3.023	3.025	3.027	3.030	3.032	3.035	**2640**
2650	3.035	3.037	3.039	3.042	3.044	3.046	3.049	3.051	3.053	3.056	3.058	**2650**
2660	3.058	3.060	3.063	3.065	3.067	3.070	3.072	3.075	3.077	3.079	3.082	**2660**
2670	3.082	3.084	3.086	3.089	3.091	3.093	3.096	3.098	3.101	3.103	3.105	**2670**
2680	3.105	3.108	3.110	3.112	3.115	3.117	3.120	3.122	3.124	3.127	3.129	**2680**
2690	3.129	3.131	3.134	3.136	3.139	3.141	3.143	3.146	3.148	3.150	3.153	**2690**
2700	3.153	3.155	3.158	3.160	3.162	3.165	3.167	3.169	3.172	3.174	3.177	**2700**
2710	3.177	3.179	3.181	3.184	3.186	3.189	3.191	3.193	3.196	3.198	3.201	**2710**
2720	3.201	3.203	3.205	3.208	3.210	3.213	3.215	3.217	3.220	3.222	3.224	**2720**
2730	3.224	3.227	3.229	3.232	3.234	3.236	3.239	3.241	3.244	3.246	3.249	**2730**
2740	3.249	3.251	3.253	3.256	3.258	3.261	3.263	3.265	3.268	3.270	3.273	**2740**
2750	3.273	3.275	3.277	3.280	3.282	3.285	3.287	3.289	3.292	3.294	3.297	**2750**
2760	3.297	3.299	3.302	3.304	3.306	3.309	3.311	3.314	3.316	3.318	3.321	**2760**
2770	3.321	3.323	3.326	3.328	3.331	3.333	3.335	3.338	3.340	3.343	3.345	**2770**
2780	3.345	3.348	3.350	3.352	3.355	3.357	3.360	3.362	3.365	3.367	3.369	**2780**
2790	3.369	3.372	3.374	3.377	3.379	3.382	3.384	3.386	3.389	3.391	3.394	**2790**
2800	3.394	3.396	3.399	3.401	3.404	3.406	3.408	3.411	3.413	3.416	3.418	**2800**
2810	3.418	3.421	3.423	3.425	3.428	3.430	3.433	3.435	3.438	3.440	3.443	**2810**
2820	3.443	3.445	3.447	3.450	3.452	3.455	3.457	3.460	3.462	3.465	3.467	**2820**
2830	3.467	3.470	3.472	3.474	3.477	3.479	3.482	3.484	3.487	3.489	3.492	**2830**
2840	3.492	3.494	3.497	3.499	3.501	3.504	3.506	3.509	3.511	3.514	3.516	**2840**
2850	3.516	3.519	3.521	3.524	3.526	3.529	3.531	3.533	3.536	3.538	3.541	**2850**
2860	3.541	3.543	3.546	3.548	3.551	3.553	3.556	3.558	3.561	3.563	3.565	**2860**
2870	3.565	3.568	3.570	3.573	3.575	3.578	3.580	3.583	3.585	3.588	3.590	**2870**
2880	3.590	3.593	3.595	3.598	3.600	3.603	3.605	3.608	3.610	3.612	3.615	**2880**
2890	3.615	3.617	3.620	3.622	3.625	3.627	3.630	3.632	3.635	3.637	3.640	**2890**
2900	3.640	3.642	3.645	3.647	3.650	3.652	3.655	3.657	3.660	3.662	3.665	**2900**
2910	3.665	3.667	3.670	3.672	3.674	3.677	3.679	3.682	3.684	3.687	3.689	**2910**
2920	3.689	3.692	3.694	3.697	3.699	3.702	3.704	3.707	3.709	3.712	3.714	**2920**
2930	3.714	3.717	3.719	3.722	3.724	3.727	3.729	3.732	3.734	3.737	3.739	**2930**
2940	3.739	3.742	3.744	3.747	3.749	3.752	3.754	3.757	3.759	3.762	3.764	**2940**
2950	3.764	3.767	3.769	3.772	3.774	3.777	3.779	3.782	3.784	3.787	3.789	**2950**
2960	3.789	3.792	3.794	3.797	3.799	3.802	3.804	3.807	3.809	3.812	3.814	**2960**
2970	3.814	3.817	3.819	3.822	3.824	3.827	3.829	3.832	3.834	3.837	3.839	**2970**
2980	3.839	3.842	3.844	3.847	3.849	3.852	3.854	3.857	3.859	3.862	3.864	**2980**
2990	3.864	3.867	3.869	3.872	3.874	3.877	3.879	3.882	3.884	3.887	3.889	**2990**
3000	3.889	3.892	3.894	3.897	3.899	3.902	3.904	3.907	3.909	3.912	3.914	**3000**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
3000	3.889	3.892	3.894	3.897	3.899	3.902	3.904	3.907	3.909	3.912	3.914	3000
3010	3.914	3.917	3.919	3.922	3.925	3.927	3.930	3.932	3.935	3.937	3.940	3010
3020	3.940	3.942	3.945	3.947	3.950	3.952	3.955	3.957	3.960	3.962	3.965	3020
3030	3.965	3.967	3.970	3.972	3.975	3.977	3.980	3.982	3.985	3.987	3.990	3030
3040	3.990	3.992	3.995	3.997	4.000	4.002	4.005	4.008	4.010	4.013	4.015	3040
3050	4.015	4.018	4.020	4.023	4.025	4.028	4.030	4.033	4.035	4.038	4.040	3050
3060	4.040	4.043	4.045	4.048	4.050	4.053	4.055	4.058	4.060	4.063	4.066	3060
3070	4.066	4.068	4.071	4.073	4.076	4.078	4.081	4.083	4.086	4.088	4.091	3070
3080	4.091	4.093	4.096	4.098	4.101	4.103	4.106	4.108	4.111	4.113	4.116	3080
3090	4.116	4.118	4.121	4.124	4.126	4.129	4.131	4.134	4.136	4.139	4.141	3090
3100	4.141	4.144	4.146	4.149	4.151	4.154	4.156	4.159	4.161	4.164	4.166	3100
3110	4.166	4.169	4.172	4.174	4.177	4.179	4.182	4.184	4.187	4.189	4.192	3110
3120	4.192	4.194	4.197	4.199	4.202	4.204	4.207	4.209	4.212	4.214	4.217	3120
3130	4.217	4.220	4.222	4.225	4.227	4.230	4.232	4.235	4.237	4.240	4.242	3130
3140	4.242	4.245	4.247	4.250	4.252	4.255	4.257	4.260	4.262	4.265	4.268	3140
3150	4.268	4.270	4.273	4.275	4.278	4.280	4.283	4.285	4.288	4.290	4.293	3150
3160	4.293	4.295	4.298	4.300	4.303	4.305	4.308	4.310	4.313	4.315	4.318	3160
3170	4.318	4.321	4.323	4.326	4.328	4.331	4.333	4.336	4.338	4.341	4.343	3170
3180	4.343	4.346	4.348	4.351	4.353	4.356	4.358	4.361	4.363	4.366	4.369	3180
3190	4.369	4.371	4.374	4.376	4.379	4.381	4.384	4.386	4.389	4.391	4.394	3190
3200	4.394	4.396	4.399	4.401	4.404	4.406	4.409	4.411	4.414	4.416	4.419	3200
3210	4.419	4.421	4.424	4.427	4.429	4.432	4.434	4.437	4.439	4.442	4.444	3210
3220	4.444	4.447	4.449	4.452	4.454	4.457	4.459	4.462	4.464	4.467	4.469	3220
3230	4.469	4.472	4.474	4.477	4.479	4.482	4.484	4.487	4.490	4.492	4.495	3230
3240	4.495	4.497	4.500	4.502	4.505	4.507	4.510	4.512	4.515	4.517	4.520	3240
3250	4.520	4.522	4.525	4.527	4.530	4.532	4.535	4.537	4.540	4.542	4.545	3250
3260	4.545	4.547	4.550	4.552	4.555	4.557	4.560	4.562	4.565	4.567	4.570	3260
3270	4.570	4.573	4.575	4.578	4.580	4.583	4.585	4.588	4.590	4.593	4.595	3270
3280	4.595	4.598	4.600	4.603	4.605	4.608	4.610	4.613	4.615	4.618	4.620	3280
3290	4.620	4.623	4.625	4.628	4.630	4.633	4.635	4.638	4.640	4.643	4.645	3290
3300	4.645	4.648	4.650	4.653	4.655	4.658	4.660	4.663	4.665	4.668	4.670	3300
3310	4.670	4.673	4.675	4.678	4.680	4.683	4.685	4.688	4.690	4.693	4.695	3310
3320	4.695	4.698	4.700	4.703	4.705	4.708	4.710	4.713	4.715	4.718	4.720	3320
3330	4.720	4.723	4.725	4.728	4.730	4.733	4.735	4.738	4.740	4.743	4.745	3330
3340	4.745	4.748	4.750	4.753	4.755	4.758	4.760	4.763	4.765	4.767	4.770	3340
3350	4.770	4.772	4.775	4.777	4.780	4.782	4.785	4.787	4.790	4.792	4.795	3350
3360	4.795	4.797	4.800	4.802	4.805	4.807	4.810	4.812	4.815	4.817	4.820	3360
3370	4.820	4.822	4.825	4.827	4.830	4.832	4.834	4.837	4.839	4.842	4.844	3370
3380	4.844	4.847	4.849	4.852	4.854	4.857	4.859	4.862	4.864	4.867	4.869	3380
3390	4.869	4.872	4.874	4.876	4.879	4.881	4.884	4.886	4.889	4.891	4.894	3390
3400	4.894	4.896	4.899	4.901	4.904	4.906	4.909	4.911	4.913	4.916	4.918	3400
3410	4.918	4.921	4.923	4.926	4.928	4.931	4.933	4.936	4.938	4.940	4.943	3410
3420	4.943	4.945	4.948	4.950	4.953	4.955	4.958	4.960	4.963	4.965	4.967	3420
3430	4.967											3430
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 10 Platinum–40 % Rhodium versus Platinum–20 % Rhodium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum 40% Rhodium versus Platinum - 20% Rhodium thermocouples.

32 °F to 1745.06 °F			1745.06 °F to 3430 °F		
c_0	=	$-6.321\ 673\ 37 \times 10^{-03}$	c_0	=	$-9.759\ 357\ 66 \times 10^{-01}$
c_1	=	$1.938\ 043\ 60 \times 10^{-04}$	c_1	=	$2.037\ 301\ 06 \times 10^{-03}$
c_2	=	$1.151\ 059\ 66 \times 10^{-07}$	c_2	=	$-1.267\ 188\ 20 \times 10^{-06}$
c_3	=	$5.952\ 052\ 53 \times 10^{-11}$	c_3	=	$6.430\ 402\ 54 \times 10^{-10}$
c_4	=	$1.124\ 125\ 50 \times 10^{-13}$	c_4	=	$-1.040\ 968\ 94 \times 10^{-13}$
c_5	=	$-8.730\ 113\ 35 \times 10^{-17}$	c_5	=	$6.165\ 900\ 98 \times 10^{-18}$
c_6	=	$3.054\ 373\ 98 \times 10^{-20}$	c_6	=	$-3.710\ 324\ 94 \times 10^{-22}$
c_7	=	$-4.654\ 725\ 17 \times 10^{-24}$			

TABLE 11 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

Thermoelectric Voltage in Millivolts

°C	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°C
-50	−1.732											**−50**
-40	−1.404	−1.437	−1.470	−1.503	−1.536	−1.569	−1.602	−1.634	−1.667	−1.699	−1.732	**−40**
-30	−1.067	−1.101	−1.135	−1.169	−1.203	−1.236	−1.270	−1.304	−1.337	−1.370	−1.404	**−30**
-20	−0.720	−0.755	−0.790	−0.825	−0.860	−0.895	−0.929	−0.964	−0.998	−1.032	−1.067	**−20**
-10	−0.365	−0.401	−0.436	−0.472	−0.508	−0.543	−0.579	−0.614	−0.650	−0.685	−0.720	**−10**
0	0.000	−0.037	−0.074	−0.110	−0.147	−0.183	−0.220	−0.256	−0.292	−0.329	−0.365	**0**
°C	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°C

TABLE 11 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
	Thermoelectric Voltage in Millivolts											
0	0.000	0.037	0.074	0.111	0.148	0.186	0.223	0.260	0.298	0.336	0.373	0
10	0.373	0.411	0.449	0.487	0.525	0.563	0.602	0.640	0.678	0.717	0.755	10
20	0.755	0.794	0.833	0.872	0.911	0.950	0.989	1.028	1.067	1.106	1.146	20
30	1.146	1.185	1.225	1.264	1.304	1.344	1.384	1.424	1.464	1.504	1.544	30
40	1.544	1.585	1.625	1.665	1.706	1.747	1.787	1.828	1.869	1.910	1.951	40
50	1.951	1.992	2.033	2.074	2.115	2.157	2.198	2.240	2.281	2.323	2.365	50
60	2.365	2.407	2.448	2.490	2.532	2.575	2.617	2.659	2.701	2.744	2.786	60
70	2.786	2.829	2.871	2.914	2.957	2.999	3.042	3.085	3.128	3.171	3.215	70
80	3.215	3.258	3.301	3.344	3.388	3.431	3.475	3.518	3.562	3.606	3.650	80
90	3.650	3.693	3.737	3.781	3.825	3.869	3.914	3.958	4.002	4.047	4.091	90
100	4.091	4.135	4.180	4.225	4.269	4.314	4.359	4.404	4.448	4.493	4.538	100
110	4.538	4.583	4.629	4.674	4.719	4.764	4.810	4.855	4.900	4.946	4.992	110
120	4.992	5.037	5.083	5.129	5.174	5.220	5.266	5.312	5.358	5.404	5.450	120
130	5.450	5.496	5.542	5.589	5.635	5.681	5.727	5.774	5.820	5.867	5.913	130
140	5.913	5.960	6.007	6.053	6.100	6.147	6.194	6.241	6.287	6.334	6.381	140
150	6.381	6.428	6.476	6.523	6.570	6.617	6.664	6.712	6.759	6.806	6.854	150
160	6.854	6.901	6.949	6.996	7.044	7.091	7.139	7.186	7.234	7.282	7.330	160
170	7.330	7.377	7.425	7.473	7.521	7.569	7.617	7.665	7.713	7.761	7.809	170
180	7.809	7.857	7.905	7.954	8.002	8.050	8.098	8.147	8.195	8.243	8.292	180
190	8.292	8.340	8.388	8.437	8.485	8.534	8.582	8.631	8.679	8.728	8.777	190
200	8.777	8.825	8.874	8.923	8.971	9.020	9.069	9.118	9.166	9.215	9.264	200
210	9.264	9.313	9.362	9.410	9.459	9.508	9.557	9.606	9.655	9.704	9.753	210
220	9.753	9.802	9.851	9.900	9.949	9.998	10.047	10.096	10.145	10.194	10.243	220
230	10.243	10.292	10.341	10.390	10.439	10.488	10.537	10.586	10.636	10.685	10.734	230
240	10.734	10.783	10.832	10.881	10.930	10.979	11.028	11.078	11.127	11.176	11.225	240
250	11.225	11.274	11.323	11.372	11.421	11.470	11.519	11.568	11.618	11.667	11.716	250
260	11.716	11.765	11.814	11.863	11.912	11.961	12.010	12.059	12.108	12.156	12.205	260
270	12.205	12.254	12.303	12.352	12.401	12.450	12.499	12.547	12.596	12.645	12.694	270
280	12.694	12.742	12.791	12.840	12.888	12.937	12.985	13.034	13.083	13.131	13.180	280
290	13.180	13.228	13.276	13.325	13.373	13.421	13.470	13.518	13.566	13.614	13.663	290
300	13.663	13.711	13.759	13.807	13.855	13.903	13.951	13.998	14.046	14.094	14.142	300
310	14.142	14.189	14.237	14.285	14.332	14.380	14.427	14.474	14.522	14.569	14.616	310
320	14.616	14.663	14.711	14.758	14.805	14.852	14.898	14.945	14.992	15.039	15.085	320
330	15.085	15.132	15.178	15.225	15.271	15.317	15.364	15.410	15.456	15.502	15.548	330
340	15.548	15.594	15.639	15.685	15.731	15.776	15.822	15.867	15.912	15.957	16.002	340
350	16.002	16.047	16.092	16.137	16.182	16.227	16.271	16.316	16.360	16.404	16.448	350
360	16.448	16.492	16.536	16.580	16.624	16.667	16.711	16.754	16.798	16.841	16.884	360
370	16.884	16.927	16.970	17.013	17.056	17.099	17.142	17.185	17.228	17.271	17.314	370
380	17.314	17.357	17.400	17.443	17.487	17.530	17.573	17.616	17.659	17.703	17.746	380
390	17.746	17.789	17.833	17.876	17.920	17.963	18.007	18.050	18.094	18.137	18.181	390
400	18.181	18.225	18.268	18.312	18.356	18.399	18.443	18.487	18.531	18.575	18.618	400
410	18.618	18.662	18.706	18.750	18.794	18.838	18.882	18.926	18.971	19.015	19.059	410
420	19.059	19.103	19.147	19.192	19.236	19.280	19.325	19.369	19.413	19.458	19.502	420
430	19.502	19.547	19.592	19.636	19.681	19.725	19.770	19.815	19.860	19.904	19.949	430
440	19.949	19.994	20.039	20.084	20.129	20.174	20.219	20.264	20.309	20.354	20.399	440
450	20.399	20.445	20.490	20.535	20.580	20.626	20.671	20.717	20.762	20.808	20.853	450
460	20.853	20.899	20.944	20.990	21.035	21.081	21.127	21.173	21.218	21.264	21.310	460
470	21.310	21.356	21.402	21.448	21.494	21.540	21.586	21.632	21.678	21.725	21.771	470
480	21.771	21.817	21.863	21.910	21.956	22.002	22.049	22.095	22.142	22.188	22.235	480
490	22.235	22.282	22.328	22.375	22.422	22.468	22.515	22.562	22.609	22.656	22.703	490
500	22.703	22.750	22.797	22.844	22.891	22.938	22.985	23.032	23.080	23.127	23.174	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 11 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	22.703	22.750	22.797	22.844	22.891	22.938	22.985	23.032	23.080	23.127	23.174	500
510	23.174	23.221	23.269	23.316	23.364	23.411	23.459	23.506	23.554	23.601	23.649	510
520	23.649	23.697	23.744	23.792	23.840	23.888	23.936	23.984	24.032	24.079	24.127	520
530	24.127	24.176	24.224	24.272	24.320	24.368	24.416	24.465	24.513	24.561	24.610	530
540	24.610	24.658	24.706	24.755	24.803	24.852	24.900	24.949	24.998	25.046	25.095	540
550	25.095	25.144	25.193	25.241	25.290	25.339	25.388	25.437	25.486	25.535	25.584	550
560	25.584	25.633	25.682	25.732	25.781	25.830	25.879	25.929	25.978	26.027	26.077	560
570	26.077	26.126	26.176	26.225	26.275	26.324	26.374	26.423	26.473	26.523	26.573	570
580	26.573	26.622	26.672	26.722	26.772	26.822	26.872	26.922	26.972	27.022	27.072	580
590	27.072	27.122	27.172	27.222	27.272	27.323	27.373	27.423	27.474	27.524	27.574	590
600	27.574	27.625	27.675	27.726	27.776	27.827	27.877	27.928	27.979	28.029	28.080	600
610	28.080	28.131	28.182	28.232	28.283	28.334	28.385	28.436	28.487	28.538	28.589	610
620	28.589	28.640	28.691	28.742	28.794	28.845	28.896	28.947	28.999	29.050	29.101	620
630	29.101	29.153	29.204	29.256	29.307	29.358	29.410	29.462	29.513	29.565	29.616	630
640	29.616	29.668	29.720	29.772	29.823	29.875	29.927	29.979	30.031	30.083	30.135	640
650	30.135	30.187	30.239	30.291	30.343	30.395	30.447	30.499	30.552	30.604	30.656	650
660	30.656	30.708	30.761	30.813	30.865	30.918	30.970	31.023	31.075	31.128	31.180	660
670	31.180	31.233	31.285	31.338	31.391	31.443	31.496	31.549	31.601	31.654	31.707	670
680	31.707	31.760	31.813	31.866	31.919	31.972	32.025	32.078	32.131	32.184	32.237	680
690	32.237	32.290	32.343	32.396	32.450	32.503	32.556	32.609	32.663	32.716	32.769	690
700	32.769	32.823	32.876	32.930	32.983	33.037	33.090	33.144	33.197	33.251	33.304	700
710	33.304	33.358	33.412	33.465	33.519	33.573	33.627	33.681	33.734	33.788	33.842	710
720	33.842	33.896	33.950	34.004	34.058	34.112	34.166	34.220	34.274	34.328	34.382	720
730	34.382	34.436	34.491	34.545	34.599	34.653	34.708	34.762	34.816	34.871	34.925	730
740	34.925	34.979	35.034	35.088	35.143	35.197	35.252	35.306	35.361	35.415	35.470	740
750	35.470	35.525	35.579	35.634	35.689	35.743	35.798	35.853	35.908	35.962	36.017	750
760	36.017	36.072	36.127	36.182	36.237	36.292	36.347	36.402	36.457	36.512	36.567	760
770	36.567	36.622	36.677	36.732	36.787	36.842	36.898	36.953	37.008	37.063	37.119	770
780	37.119	37.174	37.229	37.284	37.340	37.395	37.451	37.506	37.561	37.617	37.672	780
790	37.672	37.728	37.783	37.839	37.894	37.950	38.006	38.061	38.117	38.173	38.228	790
800	38.228	38.284	38.340	38.395	38.451	38.507	38.563	38.618	38.674	38.730	38.786	800
810	38.786	38.842	38.898	38.954	39.010	39.066	39.122	39.178	39.234	39.290	39.346	810
820	39.346	39.402	39.458	39.514	39.570	39.626	39.682	39.739	39.795	39.851	39.907	820
830	39.907	39.964	40.020	40.076	40.132	40.189	40.245	40.301	40.358	40.414	40.471	830
840	40.471	40.527	40.583	40.640	40.696	40.753	40.809	40.866	40.923	40.979	41.036	840
850	41.036	41.092	41.149	41.205	41.262	41.319	41.375	41.432	41.489	41.546	41.602	850
860	41.602	41.659	41.716	41.773	41.829	41.886	41.943	42.000	42.057	42.114	42.171	860
870	42.171	42.228	42.284	42.341	42.398	42.455	42.512	42.569	42.626	42.683	42.740	870
880	42.740	42.797	42.855	42.912	42.969	43.026	43.083	43.140	43.197	43.255	43.312	880
890	43.312	43.369	43.426	43.483	43.541	43.598	43.655	43.712	43.770	43.827	43.884	890
900	43.884	43.942	43.999	44.057	44.114	44.171	44.229	44.286	44.344	44.401	44.459	900
910	44.459	44.516	44.574	44.631	44.689	44.746	44.804	44.861	44.919	44.976	45.034	910
920	45.034	45.092	45.149	45.207	45.264	45.322	45.380	45.438	45.495	45.553	45.611	920
930	45.611	45.668	45.726	45.784	45.842	45.899	45.957	46.015	46.073	46.131	46.189	930
940	46.189	46.246	46.304	46.362	46.420	46.478	46.536	46.594	46.652	46.710	46.768	940
950	46.768	46.826	46.884	46.942	47.000	47.058	47.116	47.174	47.232	47.290	47.348	950
960	47.348	47.406	47.464	47.522	47.580	47.639	47.697	47.755	47.813	47.871	47.929	960
970	47.929	47.988	48.046	48.104	48.162	48.220	48.279	48.337	48.395	48.454	48.512	970
980	48.512	48.570	48.628	48.687	48.745	48.803	48.862	48.920	48.979	49.037	49.095	980
990	49.095	49.154	49.212	49.271	49.329	49.387	49.446	49.504	49.563	49.621	49.680	990
1000	49.680	49.738	49.797	49.855	49.914	49.972	50.031	50.090	50.148	50.207	50.265	1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 11 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1000	49.680	49.738	49.797	49.855	49.914	49.972	50.031	50.090	50.148	50.207	50.265	1000
1010	50.265	50.324	50.383	50.441	50.500	50.558	50.617	50.676	50.734	50.793	50.852	1010
1020	50.852	50.911	50.969	51.028	51.087	51.145	51.204	51.263	51.322	51.380	51.439	1020
1030	51.439	51.498	51.557	51.616	51.674	51.733	51.792	51.851	51.910	51.969	52.027	1030
1040	52.027	52.086	52.145	52.204	52.263	52.322	52.381	52.440	52.499	52.558	52.617	1040
1050	52.617	52.676	52.735	52.793	52.852	52.911	52.970	53.029	53.089	53.148	53.207	1050
1060	53.207	53.266	53.325	53.384	53.443	53.502	53.561	53.620	53.679	53.738	53.797	1060
1070	53.797	53.856	53.916	53.975	54.034	54.093	54.152	54.211	54.271	54.330	54.389	1070
1080	54.389	54.448	54.507	54.567	54.626	54.685	54.744	54.803	54.863	54.922	54.981	1080
1090	54.981	55.041	55.100	55.159	55.218	55.278	55.337	55.396	55.456	55.515	55.574	1090
1100	55.574	55.634	55.693	55.752	55.812	55.871	55.930	55.990	56.049	56.109	56.168	1100
1110	56.168	56.227	56.287	56.346	56.406	56.465	56.525	56.584	56.644	56.703	56.762	1110
1120	56.762	56.822	56.881	56.941	57.000	57.060	57.119	57.179	57.238	57.298	57.357	1120
1130	57.357	57.417	57.477	57.536	57.596	57.655	57.715	57.774	57.834	57.894	57.953	1130
1140	57.953	58.013	58.072	58.132	58.191	58.251	58.311	58.370	58.430	58.490	58.549	1140
1150	58.549	58.609	58.669	58.728	58.788	58.848	58.907	58.967	59.027	59.086	59.146	1150
1160	59.146	59.206	59.265	59.325	59.385	59.444	59.504	59.564	59.624	59.683	59.743	1160
1170	59.743	59.803	59.863	59.922	59.982	60.042	60.102	60.161	60.221	60.281	60.341	1170
1180	60.341	60.400	60.460	60.520	60.580	60.640	60.699	60.759	60.819	60.879	60.939	1180
1190	60.939	60.998	61.058	61.118	61.178	61.238	61.297	61.357	61.417	61.477	61.537	1190
1200	61.537	61.597	61.656	61.716	61.776	61.836	61.896	61.956	62.015	62.075	62.135	1200
1210	62.135	62.195	62.255	62.315	62.375	62.434	62.494	62.554	62.614	62.674	62.734	1210
1220	62.734	62.794	62.854	62.913	62.973	63.033	63.093	63.153	63.213	63.273	63.333	1220
1230	63.333	63.392	63.452	63.512	63.572	63.632	63.692	63.752	63.812	63.872	63.931	1230
1240	63.931	63.991	64.051	64.111	64.171	64.231	64.291	64.351	64.411	64.470	64.530	1240
1250	64.530	64.590	64.650	64.710	64.770	64.830	64.890	64.950	65.009	65.069	65.129	1250
1260	65.129	65.189	65.249	65.309	65.369	65.429	65.488	65.548	65.608	65.668	65.728	1260
1270	65.728	65.788	65.848	65.907	65.967	66.027	66.087	66.147	66.207	66.267	66.326	1270
1280	66.326	66.386	66.446	66.506	66.566	66.626	66.686	66.745	66.805	66.865	66.925	1280
1290	66.925	66.985	67.045	67.104	67.164	67.224	67.284	67.344	67.404	67.463	67.523	1290
1300	67.523	67.583	67.643	67.703	67.762	67.822	67.882	67.942	68.002	68.061	68.121	1300
1310	68.121	68.181	68.241	68.301	68.360	68.420	68.480	68.540	68.599	68.659	68.719	1310
1320	68.719	68.779	68.839	68.898	68.958	69.018	69.078	69.137	69.197	69.257	69.317	1320
1330	69.317	69.376	69.436	69.496	69.556	69.615	69.675	69.735	69.795	69.854	69.914	1330
1340	69.914	69.974	70.034	70.093	70.153	70.213	70.272	70.332	70.392	70.452	70.511	1340
1350	70.511	70.571	70.631	70.691	70.750	70.810	70.870	70.930	70.989	71.049	71.109	1350
1360	71.109	71.169	71.228	71.288	71.348	71.408	71.467	71.527	71.587	71.647	71.707	1360
1370	71.707	71.766	71.826	71.886	71.946	72.005	72.065	72.125	72.185	72.245	72.305	1370
1380	72.305	72.364	72.424	72.484	72.544	72.604	72.664	72.724	72.783	72.843	72.903	1380
1390	72.903	72.963	73.023	73.083	73.143	73.203	73.263	73.323	73.383	73.443	73.503	1390
1400	73.503	73.563	73.623	73.683	73.743	73.803	73.863	73.923	73.984	74.044	74.104	1400
1410	74.104											1410
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 11 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Nickel - 18% Molybdenum versus Nickel - 0.8% Cobalt thermocouples.

−50 °C to 370.8 °C			370.8 °C to 1410 °C		
c_0	=	0.000 000 0	c_0	=	$-1.145\ 582\ 129 \times 10^{01}$
c_1	=	$3.690\ 092\ 195 \times 10^{-02}$	c_1	=	$2.059\ 913\ 943 \times 10^{-01}$
c_2	=	$4.408\ 522\ 682 \times 10^{-05}$	c_2	=	$-8.846\ 963\ 426 \times 10^{-04}$
c_3	=	$-3.142\ 898\ 226 \times 10^{-08}$	c_3	=	$2.650\ 568\ 429 \times 10^{-06}$
c_4	=	$-1.025\ 216\ 130 \times 10^{-10}$	c_4	=	$-4.958\ 763\ 813 \times 10^{-09}$
c_5	=	$1.846\ 977\ 453 \times 10^{-13}$	c_5	=	$6.145\ 877\ 457 \times 10^{-12}$
c_6	=	$-9.738\ 054\ 601 \times 10^{-17}$	c_6	=	$-5.041\ 679\ 909 \times 10^{-15}$
c_7	=	$-3.394\ 387\ 900 \times 10^{-19}$	c_7	=	$2.627\ 522\ 669 \times 10^{-18}$
			c_8	=	$-7.864\ 442\ 961 \times 10^{-22}$
			c_9	=	$1.027\ 600\ 874 \times 10^{-25}$

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

Thermoelectric Voltage in Millivolts

°F	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°F
-50	−1.587	−1.605	−1.623	−1.641	−1.660	−1.678	−1.696	−1.714	−1.732			**−50**
-40	−1.404	−1.422	−1.441	−1.459	−1.477	−1.496	−1.514	−1.532	−1.551	−1.569	−1.587	**−40**
-30	−1.218	−1.236	−1.255	−1.274	−1.292	−1.311	−1.330	−1.348	−1.367	−1.385	−1.404	**−30**
-20	−1.029	−1.048	−1.067	−1.086	−1.105	−1.123	−1.142	−1.161	−1.180	−1.199	−1.218	**−20**
-10	−0.837	−0.856	−0.875	−0.895	−0.914	−0.933	−0.952	−0.971	−0.990	−1.009	−1.029	**−10**
0	−0.642	−0.662	−0.681	−0.701	−0.720	−0.740	−0.759	−0.779	−0.798	−0.817	−0.837	**0**
°F	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
0	−0.642	−0.622	−0.603	−0.583	−0.563	−0.543	−0.524	−0.504	−0.484	−0.464	−0.444	0
10	−0.444	−0.424	−0.405	−0.385	−0.365	−0.345	−0.325	−0.304	−0.284	−0.264	−0.244	10
20	−0.244	−0.224	−0.204	−0.183	−0.163	−0.143	−0.123	−0.102	−0.082	−0.061	−0.041	20
30	−0.041	−0.020	0.000	0.021	0.041	0.062	0.082	0.103	0.123	0.144	0.165	30
40	0.165	0.186	0.206	0.227	0.248	0.269	0.290	0.311	0.331	0.352	0.373	40
50	0.373	0.394	0.415	0.436	0.458	0.479	0.500	0.521	0.542	0.563	0.585	50
60	0.585	0.606	0.627	0.648	0.670	0.691	0.713	0.734	0.755	0.777	0.798	60
70	0.798	0.820	0.841	0.863	0.885	0.906	0.928	0.950	0.971	0.993	1.015	70
80	1.015	1.037	1.058	1.080	1.102	1.124	1.146	1.168	1.190	1.212	1.234	80
90	1.234	1.256	1.278	1.300	1.322	1.344	1.366	1.388	1.411	1.433	1.455	90
100	1.455	1.477	1.500	1.522	1.544	1.567	1.589	1.612	1.634	1.656	1.679	100
110	1.679	1.701	1.724	1.747	1.769	1.792	1.814	1.837	1.860	1.882	1.905	110
120	1.905	1.928	1.951	1.974	1.996	2.019	2.042	2.065	2.088	2.111	2.134	120
130	2.134	2.157	2.180	2.203	2.226	2.249	2.272	2.295	2.318	2.342	2.365	130
140	2.365	2.388	2.411	2.435	2.458	2.481	2.504	2.528	2.551	2.575	2.598	140
150	2.598	2.621	2.645	2.668	2.692	2.715	2.739	2.763	2.786	2.810	2.833	150
160	2.833	2.857	2.881	2.904	2.928	2.952	2.976	2.999	3.023	3.047	3.071	160
170	3.071	3.095	3.119	3.143	3.167	3.191	3.215	3.238	3.263	3.287	3.311	170
180	3.311	3.335	3.359	3.383	3.407	3.431	3.455	3.480	3.504	3.528	3.552	180
190	3.552	3.577	3.601	3.625	3.650	3.674	3.698	3.723	3.747	3.772	3.796	190
200	3.796	3.820	3.845	3.869	3.894	3.919	3.943	3.968	3.992	4.017	4.042	200
210	4.042	4.066	4.091	4.116	4.140	4.165	4.190	4.215	4.239	4.264	4.289	210
220	4.289	4.314	4.339	4.364	4.389	4.414	4.438	4.463	4.488	4.513	4.538	220
230	4.538	4.563	4.588	4.614	4.639	4.664	4.689	4.714	4.739	4.764	4.789	230
240	4.789	4.815	4.840	4.865	4.890	4.916	4.941	4.966	4.992	5.017	5.042	240
250	5.042	5.068	5.093	5.118	5.144	5.169	5.195	5.220	5.246	5.271	5.297	250
260	5.297	5.322	5.348	5.373	5.399	5.424	5.450	5.476	5.501	5.527	5.553	260
270	5.553	5.578	5.604	5.630	5.655	5.681	5.707	5.733	5.758	5.784	5.810	270
280	5.810	5.836	5.862	5.888	5.913	5.939	5.965	5.991	6.017	6.043	6.069	280
290	6.069	6.095	6.121	6.147	6.173	6.199	6.225	6.251	6.277	6.303	6.329	290
300	6.329	6.355	6.381	6.408	6.434	6.460	6.486	6.512	6.538	6.565	6.591	300
310	6.591	6.617	6.643	6.670	6.696	6.722	6.748	6.775	6.801	6.827	6.854	310
320	6.854	6.880	6.906	6.933	6.959	6.985	7.012	7.038	7.065	7.091	7.118	320
330	7.118	7.144	7.171	7.197	7.224	7.250	7.277	7.303	7.330	7.356	7.383	330
340	7.383	7.409	7.436	7.463	7.489	7.516	7.542	7.569	7.596	7.622	7.649	340
350	7.649	7.676	7.702	7.729	7.756	7.782	7.809	7.836	7.863	7.889	7.916	350
360	7.916	7.943	7.970	7.996	8.023	8.050	8.077	8.104	8.130	8.157	8.184	360
370	8.184	8.211	8.238	8.265	8.292	8.318	8.345	8.372	8.399	8.426	8.453	370
380	8.453	8.480	8.507	8.534	8.561	8.588	8.615	8.642	8.669	8.696	8.723	380
390	8.723	8.750	8.777	8.804	8.831	8.858	8.885	8.912	8.939	8.966	8.993	390
400	8.993	9.020	9.047	9.074	9.101	9.128	9.155	9.183	9.210	9.237	9.264	400
410	9.264	9.291	9.318	9.345	9.372	9.400	9.427	9.454	9.481	9.508	9.535	410
420	9.535	9.562	9.590	9.617	9.644	9.671	9.698	9.726	9.753	9.780	9.807	420
430	9.807	9.834	9.862	9.889	9.916	9.943	9.971	9.998	10.025	10.052	10.079	430
440	10.079	10.107	10.134	10.161	10.188	10.216	10.243	10.270	10.297	10.325	10.352	440
450	10.352	10.379	10.406	10.434	10.461	10.488	10.516	10.543	10.570	10.597	10.625	450
460	10.625	10.652	10.679	10.707	10.734	10.761	10.788	10.816	10.843	10.870	10.898	460
470	10.898	10.925	10.952	10.979	11.007	11.034	11.061	11.088	11.116	11.143	11.170	470
480	11.170	11.198	11.225	11.252	11.279	11.307	11.334	11.361	11.389	11.416	11.443	480
490	11.443	11.470	11.498	11.525	11.552	11.579	11.607	11.634	11.661	11.688	11.716	490
500	11.716	11.743	11.770	11.797	11.825	11.852	11.879	11.906	11.933	11.961	11.988	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
	Thermoelectric Voltage in Millivolts											
500	11.716	11.743	11.770	11.797	11.825	11.852	11.879	11.906	11.933	11.961	11.988	500
510	11.988	12.015	12.042	12.069	12.097	12.124	12.151	12.178	12.205	12.233	12.260	510
520	12.260	12.287	12.314	12.341	12.368	12.395	12.423	12.450	12.477	12.504	12.531	520
530	12.531	12.558	12.585	12.612	12.639	12.667	12.694	12.721	12.748	12.775	12.802	530
540	12.802	12.829	12.856	12.883	12.910	12.937	12.964	12.991	13.018	13.045	13.072	540
550	13.072	13.099	13.126	13.153	13.180	13.206	13.233	13.260	13.287	13.314	13.341	550
560	13.341	13.368	13.395	13.421	13.448	13.475	13.502	13.529	13.555	13.582	13.609	560
570	13.609	13.636	13.663	13.689	13.716	13.743	13.769	13.796	13.823	13.849	13.876	570
580	13.876	13.903	13.929	13.956	13.982	14.009	14.036	14.062	14.089	14.115	14.142	580
590	14.142	14.168	14.195	14.221	14.248	14.274	14.300	14.327	14.353	14.380	14.406	590
600	14.406	14.432	14.459	14.485	14.511	14.538	14.564	14.590	14.616	14.643	14.669	600
610	14.669	14.695	14.721	14.747	14.773	14.799	14.825	14.852	14.878	14.904	14.930	610
620	14.930	14.956	14.982	15.008	15.033	15.059	15.085	15.111	15.137	15.163	15.189	620
630	15.189	15.214	15.240	15.266	15.292	15.317	15.343	15.369	15.394	15.420	15.446	630
640	15.446	15.471	15.497	15.522	15.548	15.573	15.599	15.624	15.649	15.675	15.700	640
650	15.700	15.726	15.751	15.776	15.801	15.827	15.852	15.877	15.902	15.927	15.952	650
660	15.952	15.977	16.002	16.027	16.052	16.077	16.102	16.127	16.152	16.177	16.202	660
670	16.202	16.227	16.251	16.276	16.301	16.325	16.350	16.375	16.399	16.424	16.448	670
680	16.448	16.473	16.497	16.522	16.546	16.570	16.595	16.619	16.643	16.667	16.692	680
690	16.692	16.716	16.740	16.764	16.788	16.812	16.836	16.860	16.884	16.908	16.932	690
700	16.932	16.955	16.979	17.003	17.027	17.051	17.075	17.099	17.123	17.146	17.170	700
710	17.170	17.194	17.218	17.242	17.266	17.290	17.314	17.338	17.362	17.386	17.410	710
720	17.410	17.434	17.458	17.482	17.506	17.530	17.554	17.578	17.602	17.626	17.650	720
730	17.650	17.674	17.698	17.722	17.746	17.770	17.794	17.818	17.843	17.867	17.891	730
740	17.891	17.915	17.939	17.963	17.987	18.011	18.036	18.060	18.084	18.108	18.132	740
750	18.132	18.157	18.181	18.205	18.229	18.254	18.278	18.302	18.326	18.351	18.375	750
760	18.375	18.399	18.424	18.448	18.472	18.497	18.521	18.545	18.570	18.594	18.618	760
770	18.618	18.643	18.667	18.692	18.716	18.740	18.765	18.789	18.814	18.838	18.863	770
780	18.863	18.887	18.912	18.936	18.961	18.985	19.010	19.034	19.059	19.083	19.108	780
790	19.108	19.133	19.157	19.182	19.206	19.231	19.256	19.280	19.305	19.330	19.354	790
800	19.354	19.379	19.404	19.428	19.453	19.478	19.502	19.527	19.552	19.577	19.601	800
810	19.601	19.626	19.651	19.676	19.701	19.725	19.750	19.775	19.800	19.825	19.850	810
820	19.850	19.875	19.899	19.924	19.949	19.974	19.999	20.024	20.049	20.074	20.099	820
830	20.099	20.124	20.149	20.174	20.199	20.224	20.249	20.274	20.299	20.324	20.349	830
840	20.349	20.374	20.399	20.425	20.450	20.475	20.500	20.525	20.550	20.575	20.601	840
850	20.601	20.626	20.651	20.676	20.701	20.727	20.752	20.777	20.802	20.828	20.853	850
860	20.853	20.878	20.904	20.929	20.954	20.980	21.005	21.030	21.056	21.081	21.107	860
870	21.107	21.132	21.157	21.183	21.208	21.234	21.259	21.285	21.310	21.336	21.361	870
880	21.361	21.387	21.412	21.438	21.463	21.489	21.514	21.540	21.566	21.591	21.617	880
890	21.617	21.642	21.668	21.694	21.719	21.745	21.771	21.796	21.822	21.848	21.874	890
900	21.874	21.899	21.925	21.951	21.977	22.002	22.028	22.054	22.080	22.106	22.131	900
910	22.131	22.157	22.183	22.209	22.235	22.261	22.287	22.313	22.339	22.365	22.390	910
920	22.390	22.416	22.442	22.468	22.494	22.520	22.546	22.572	22.598	22.624	22.651	920
930	22.651	22.677	22.703	22.729	22.755	22.781	22.807	22.833	22.859	22.886	22.912	930
940	22.912	22.938	22.964	22.990	23.017	23.043	23.069	23.095	23.122	23.148	23.174	940
950	23.174	23.200	23.227	23.253	23.279	23.306	23.332	23.358	23.385	23.411	23.437	950
960	23.437	23.464	23.490	23.517	23.543	23.570	23.596	23.623	23.649	23.675	23.702	960
970	23.702	23.728	23.755	23.782	23.808	23.835	23.861	23.888	23.914	23.941	23.968	970
980	23.968	23.994	24.021	24.047	24.074	24.101	24.127	24.154	24.181	24.208	24.234	980
990	24.234	24.261	24.288	24.315	24.341	24.368	24.395	24.422	24.448	24.475	24.502	990
1000	24.502	24.529	24.556	24.583	24.610	24.636	24.663	24.690	24.717	24.744	24.771	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	24.502	24.529	24.556	24.583	24.610	24.636	24.663	24.690	24.717	24.744	24.771	1000
1010	24.771	24.798	24.825	24.852	24.879	24.906	24.933	24.960	24.987	25.014	25.041	1010
1020	25.041	25.068	25.095	25.122	25.149	25.176	25.203	25.231	25.258	25.285	25.312	1020
1030	25.312	25.339	25.366	25.394	25.421	25.448	25.475	25.502	25.530	25.557	25.584	1030
1040	25.584	25.611	25.639	25.666	25.693	25.721	25.748	25.775	25.803	25.830	25.857	1040
1050	25.857	25.885	25.912	25.939	25.967	25.994	26.022	26.049	26.077	26.104	26.132	1050
1060	26.132	26.159	26.187	26.214	26.242	26.269	26.297	26.324	26.352	26.379	26.407	1060
1070	26.407	26.434	26.462	26.490	26.517	26.545	26.573	26.600	26.628	26.655	26.683	1070
1080	26.683	26.711	26.739	26.766	26.794	26.822	26.849	26.877	26.905	26.933	26.961	1080
1090	26.961	26.988	27.016	27.044	27.072	27.100	27.127	27.155	27.183	27.211	27.239	1090
1100	27.239	27.267	27.295	27.323	27.351	27.378	27.406	27.434	27.462	27.490	27.518	1100
1110	27.518	27.546	27.574	27.602	27.630	27.658	27.686	27.714	27.743	27.771	27.799	1110
1120	27.799	27.827	27.855	27.883	27.911	27.939	27.967	27.996	28.024	28.052	28.080	1120
1130	28.080	28.108	28.136	28.165	28.193	28.221	28.249	28.278	28.306	28.334	28.362	1130
1140	28.362	28.391	28.419	28.447	28.476	28.504	28.532	28.561	28.589	28.617	28.646	1140
1150	28.646	28.674	28.703	28.731	28.759	28.788	28.816	28.845	28.873	28.902	28.930	1150
1160	28.930	28.959	28.987	29.016	29.044	29.073	29.101	29.130	29.158	29.187	29.215	1160
1170	29.215	29.244	29.273	29.301	29.330	29.358	29.387	29.416	29.444	29.473	29.502	1170
1180	29.502	29.530	29.559	29.588	29.616	29.645	29.674	29.703	29.731	29.760	29.789	1180
1190	29.789	29.818	29.846	29.875	29.904	29.933	29.962	29.991	30.019	30.048	30.077	1190
1200	30.077	30.106	30.135	30.164	30.193	30.221	30.250	30.279	30.308	30.337	30.366	1200
1210	30.366	30.395	30.424	30.453	30.482	30.511	30.540	30.569	30.598	30.627	30.656	1210
1220	30.656	30.685	30.714	30.743	30.772	30.801	30.830	30.859	30.889	30.918	30.947	1220
1230	30.947	30.976	31.005	31.034	31.063	31.093	31.122	31.151	31.180	31.209	31.239	1230
1240	31.239	31.268	31.297	31.326	31.355	31.385	31.414	31.443	31.473	31.502	31.531	1240
1250	31.531	31.560	31.590	31.619	31.648	31.678	31.707	31.736	31.766	31.795	31.825	1250
1260	31.825	31.854	31.883	31.913	31.942	31.972	32.001	32.031	32.060	32.089	32.119	1260
1270	32.119	32.148	32.178	32.207	32.237	32.266	32.296	32.325	32.355	32.385	32.414	1270
1280	32.414	32.444	32.473	32.503	32.532	32.562	32.592	32.621	32.651	32.680	32.710	1280
1290	32.710	32.740	32.769	32.799	32.829	32.858	32.888	32.918	32.947	32.977	33.007	1290
1300	33.007	33.037	33.066	33.096	33.126	33.156	33.185	33.215	33.245	33.275	33.304	1300
1310	33.304	33.334	33.364	33.394	33.424	33.454	33.483	33.513	33.543	33.573	33.603	1310
1320	33.603	33.633	33.663	33.693	33.722	33.752	33.782	33.812	33.842	33.872	33.902	1320
1330	33.902	33.932	33.962	33.992	34.022	34.052	34.082	34.112	34.142	34.172	34.202	1330
1340	34.202	34.232	34.262	34.292	34.322	34.352	34.382	34.412	34.442	34.473	34.503	1340
1350	34.503	34.533	34.563	34.593	34.623	34.653	34.683	34.714	34.744	34.774	34.804	1350
1360	34.804	34.834	34.865	34.895	34.925	34.955	34.985	35.016	35.046	35.076	35.106	1360
1370	35.106	35.137	35.167	35.197	35.227	35.258	35.288	35.318	35.349	35.379	35.409	1370
1380	35.409	35.440	35.470	35.500	35.531	35.561	35.591	35.622	35.652	35.683	35.713	1380
1390	35.713	35.743	35.774	35.804	35.835	35.865	35.895	35.926	35.956	35.987	36.017	1390
1400	36.017	36.048	36.078	36.109	36.139	36.170	36.200	36.231	36.261	36.292	36.322	1400
1410	36.322	36.353	36.383	36.414	36.445	36.475	36.506	36.536	36.567	36.597	36.628	1410
1420	36.628	36.659	36.689	36.720	36.750	36.781	36.812	36.842	36.873	36.904	36.934	1420
1430	36.934	36.965	36.996	37.026	37.057	37.088	37.119	37.149	37.180	37.211	37.241	1430
1440	37.241	37.272	37.303	37.334	37.364	37.395	37.426	37.457	37.488	37.518	37.549	1440
1450	37.549	37.580	37.611	37.642	37.672	37.703	37.734	37.765	37.796	37.827	37.857	1450
1460	37.857	37.888	37.919	37.950	37.981	38.012	38.043	38.074	38.105	38.135	38.166	1460
1470	38.166	38.197	38.228	38.259	38.290	38.321	38.352	38.383	38.414	38.445	38.476	1470
1480	38.476	38.507	38.538	38.569	38.600	38.631	38.662	38.693	38.724	38.755	38.786	1480
1490	38.786	38.817	38.848	38.879	38.910	38.941	38.972	39.003	39.035	39.066	39.097	1490
1500	39.097	39.128	39.159	39.190	39.221	39.252	39.283	39.315	39.346	39.377	39.408	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1500	39.097	39.128	39.159	39.190	39.221	39.252	39.283	39.315	39.346	39.377	39.408	1500
1510	39.408	39.439	39.470	39.502	39.533	39.564	39.595	39.626	39.657	39.689	39.720	1510
1520	39.720	39.751	39.782	39.814	39.845	39.876	39.907	39.939	39.970	40.001	40.032	1520
1530	40.032	40.064	40.095	40.126	40.157	40.189	40.220	40.251	40.283	40.314	40.345	1530
1540	40.345	40.377	40.408	40.439	40.471	40.502	40.533	40.565	40.596	40.627	40.659	1540
1550	40.659	40.690	40.722	40.753	40.784	40.816	40.847	40.879	40.910	40.941	40.973	1550
1560	40.973	41.004	41.036	41.067	41.099	41.130	41.161	41.193	41.224	41.256	41.287	1560
1570	41.287	41.319	41.350	41.382	41.413	41.445	41.476	41.508	41.539	41.571	41.602	1570
1580	41.602	41.634	41.665	41.697	41.728	41.760	41.792	41.823	41.855	41.886	41.918	1580
1590	41.918	41.949	41.981	42.013	42.044	42.076	42.107	42.139	42.171	42.202	42.234	1590
1600	42.234	42.265	42.297	42.329	42.360	42.392	42.424	42.455	42.487	42.519	42.550	1600
1610	42.550	42.582	42.614	42.645	42.677	42.709	42.740	42.772	42.804	42.836	42.867	1610
1620	42.867	42.899	42.931	42.962	42.994	43.026	43.058	43.089	43.121	43.153	43.185	1620
1630	43.185	43.216	43.248	43.280	43.312	43.344	43.375	43.407	43.439	43.471	43.502	1630
1640	43.502	43.534	43.566	43.598	43.630	43.662	43.693	43.725	43.757	43.789	43.821	1640
1650	43.821	43.853	43.884	43.916	43.948	43.980	44.012	44.044	44.076	44.108	44.139	1650
1660	44.139	44.171	44.203	44.235	44.267	44.299	44.331	44.363	44.395	44.427	44.459	1660
1670	44.459	44.490	44.522	44.554	44.586	44.618	44.650	44.682	44.714	44.746	44.778	1670
1680	44.778	44.810	44.842	44.874	44.906	44.938	44.970	45.002	45.034	45.066	45.098	1680
1690	45.098	45.130	45.162	45.194	45.226	45.258	45.290	45.322	45.354	45.386	45.418	1690
1700	45.418	45.450	45.482	45.514	45.547	45.579	45.611	45.643	45.675	45.707	45.739	1700
1710	45.739	45.771	45.803	45.835	45.867	45.899	45.932	45.964	45.996	46.028	46.060	1710
1720	46.060	46.092	46.124	46.156	46.189	46.221	46.253	46.285	46.317	46.349	46.381	1720
1730	46.381	46.414	46.446	46.478	46.510	46.542	46.575	46.607	46.639	46.671	46.703	1730
1740	46.703	46.735	46.768	46.800	46.832	46.864	46.897	46.929	46.961	46.993	47.025	1740
1750	47.025	47.058	47.090	47.122	47.154	47.187	47.219	47.251	47.283	47.316	47.348	1750
1760	47.348	47.380	47.413	47.445	47.477	47.509	47.542	47.574	47.606	47.639	47.671	1760
1770	47.671	47.703	47.735	47.768	47.800	47.832	47.865	47.897	47.929	47.962	47.994	1770
1780	47.994	48.026	48.059	48.091	48.123	48.156	48.188	48.220	48.253	48.285	48.318	1780
1790	48.318	48.350	48.382	48.415	48.447	48.479	48.512	48.544	48.577	48.609	48.641	1790
1800	48.641	48.674	48.706	48.739	48.771	48.803	48.836	48.868	48.901	48.933	48.966	1800
1810	48.966	48.998	49.030	49.063	49.095	49.128	49.160	49.193	49.225	49.258	49.290	1810
1820	49.290	49.323	49.355	49.387	49.420	49.452	49.485	49.517	49.550	49.582	49.615	1820
1830	49.615	49.647	49.680	49.712	49.745	49.777	49.810	49.842	49.875	49.907	49.940	1830
1840	49.940	49.972	50.005	50.038	50.070	50.103	50.135	50.168	50.200	50.233	50.265	1840
1850	50.265	50.298	50.330	50.363	50.396	50.428	50.461	50.493	50.526	50.558	50.591	1850
1860	50.591	50.624	50.656	50.689	50.721	50.754	50.787	50.819	50.852	50.884	50.917	1860
1870	50.917	50.950	50.982	51.015	51.048	51.080	51.113	51.145	51.178	51.211	51.243	1870
1880	51.243	51.276	51.309	51.341	51.374	51.407	51.439	51.472	51.505	51.537	51.570	1880
1890	51.570	51.603	51.635	51.668	51.701	51.733	51.766	51.799	51.831	51.864	51.897	1890
1900	51.897	51.929	51.962	51.995	52.027	52.060	52.093	52.126	52.158	52.191	52.224	1900
1910	52.224	52.256	52.289	52.322	52.355	52.387	52.420	52.453	52.486	52.518	52.551	1910
1920	52.551	52.584	52.617	52.649	52.682	52.715	52.748	52.780	52.813	52.846	52.879	1920
1930	52.879	52.911	52.944	52.977	53.010	53.043	53.075	53.108	53.141	53.174	53.207	1930
1940	53.207	53.239	53.272	53.305	53.338	53.371	53.403	53.436	53.469	53.502	53.535	1940
1950	53.535	53.568	53.600	53.633	53.666	53.699	53.732	53.765	53.797	53.830	53.863	1950
1960	53.863	53.896	53.929	53.962	53.994	54.027	54.060	54.093	54.126	54.159	54.192	1960
1970	54.192	54.225	54.257	54.290	54.323	54.356	54.389	54.422	54.455	54.488	54.520	1970
1980	54.520	54.553	54.586	54.619	54.652	54.685	54.718	54.751	54.784	54.817	54.850	1980
1990	54.850	54.882	54.915	54.948	54.981	55.014	55.047	55.080	55.113	55.146	55.179	1990
2000	55.179	55.212	55.245	55.278	55.311	55.344	55.377	55.409	55.442	55.475	55.508	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	55.179	55.212	55.245	55.278	55.311	55.344	55.377	55.409	55.442	55.475	55.508	2000
2010	55.508	55.541	55.574	55.607	55.640	55.673	55.706	55.739	55.772	55.805	55.838	2010
2020	55.838	55.871	55.904	55.937	55.970	56.003	56.036	56.069	56.102	56.135	56.168	2020
2030	56.168	56.201	56.234	56.267	56.300	56.333	56.366	56.399	56.432	56.465	56.498	2030
2040	56.498	56.531	56.564	56.597	56.630	56.663	56.696	56.729	56.762	56.795	56.829	2040
2050	56.829	56.862	56.895	56.928	56.961	56.994	57.027	57.060	57.093	57.126	57.159	2050
2060	57.159	57.192	57.225	57.258	57.291	57.324	57.357	57.391	57.424	57.457	57.490	2060
2070	57.490	57.523	57.556	57.589	57.622	57.655	57.688	57.721	57.754	57.788	57.821	2070
2080	57.821	57.854	57.887	57.920	57.953	57.986	58.019	58.052	58.086	58.119	58.152	2080
2090	58.152	58.185	58.218	58.251	58.284	58.317	58.350	58.384	58.417	58.450	58.483	2090
2100	58.483	58.516	58.549	58.582	58.616	58.649	58.682	58.715	58.748	58.781	58.814	2100
2110	58.814	58.848	58.881	58.914	58.947	58.980	59.013	59.046	59.080	59.113	59.146	2110
2120	59.146	59.179	59.212	59.245	59.279	59.312	59.345	59.378	59.411	59.444	59.478	2120
2130	59.478	59.511	59.544	59.577	59.610	59.644	59.677	59.710	59.743	59.776	59.809	2130
2140	59.809	59.843	59.876	59.909	59.942	59.975	60.009	60.042	60.075	60.108	60.141	2140
2150	60.141	60.175	60.208	60.241	60.274	60.307	60.341	60.374	60.407	60.440	60.473	2150
2160	60.473	60.507	60.540	60.573	60.606	60.640	60.673	60.706	60.739	60.772	60.806	2160
2170	60.806	60.839	60.872	60.905	60.939	60.972	61.005	61.038	61.071	61.105	61.138	2170
2180	61.138	61.171	61.204	61.238	61.271	61.304	61.337	61.371	61.404	61.437	61.470	2180
2190	61.470	61.503	61.537	61.570	61.603	61.636	61.670	61.703	61.736	61.769	61.803	2190
2200	61.803	61.836	61.869	61.902	61.936	61.969	62.002	62.035	62.069	62.102	62.135	2200
2210	62.135	62.168	62.202	62.235	62.268	62.301	62.335	62.368	62.401	62.434	62.468	2210
2220	62.468	62.501	62.534	62.568	62.601	62.634	62.667	62.701	62.734	62.767	62.800	2220
2230	62.800	62.834	62.867	62.900	62.933	62.967	63.000	63.033	63.066	63.100	63.133	2230
2240	63.133	63.166	63.200	63.233	63.266	63.299	63.333	63.366	63.399	63.432	63.466	2240
2250	63.466	63.499	63.532	63.565	63.599	63.632	63.665	63.699	63.732	63.765	63.798	2250
2260	63.798	63.832	63.865	63.898	63.931	63.965	63.998	64.031	64.065	64.098	64.131	2260
2270	64.131	64.164	64.198	64.231	64.264	64.297	64.331	64.364	64.397	64.431	64.464	2270
2280	64.464	64.497	64.530	64.564	64.597	64.630	64.663	64.697	64.730	64.763	64.796	2280
2290	64.796	64.830	64.863	64.896	64.930	64.963	64.996	65.029	65.063	65.096	65.129	2290
2300	65.129	65.162	65.196	65.229	65.262	65.295	65.329	65.362	65.395	65.429	65.462	2300
2310	65.462	65.495	65.528	65.562	65.595	65.628	65.661	65.695	65.728	65.761	65.794	2310
2320	65.794	65.828	65.861	65.894	65.927	65.961	65.994	66.027	66.060	66.094	66.127	2320
2330	66.127	66.160	66.193	66.227	66.260	66.293	66.326	66.360	66.393	66.426	66.459	2330
2340	66.459	66.493	66.526	66.559	66.592	66.626	66.659	66.692	66.725	66.759	66.792	2340
2350	66.792	66.825	66.858	66.892	66.925	66.958	66.991	67.025	67.058	67.091	67.124	2350
2360	67.124	67.158	67.191	67.224	67.257	67.291	67.324	67.357	67.390	67.423	67.457	2360
2370	67.457	67.490	67.523	67.556	67.590	67.623	67.656	67.689	67.723	67.756	67.789	2370
2380	67.789	67.822	67.855	67.889	67.922	67.955	67.988	68.022	68.055	68.088	68.121	2380
2390	68.121	68.154	68.188	68.221	68.254	68.287	68.320	68.354	68.387	68.420	68.453	2390
2400	68.453	68.487	68.520	68.553	68.586	68.619	68.653	68.686	68.719	68.752	68.785	2400
2410	68.785	68.819	68.852	68.885	68.918	68.951	68.985	69.018	69.051	69.084	69.117	2410
2420	69.117	69.151	69.184	69.217	69.250	69.283	69.317	69.350	69.383	69.416	69.449	2420
2430	69.449	69.483	69.516	69.549	69.582	69.615	69.649	69.682	69.715	69.748	69.781	2430
2440	69.781	69.814	69.848	69.881	69.914	69.947	69.980	70.014	70.047	70.080	70.113	2440
2450	70.113	70.146	70.180	70.213	70.246	70.279	70.312	70.345	70.379	70.412	70.445	2450
2460	70.445	70.478	70.511	70.545	70.578	70.611	70.644	70.677	70.711	70.744	70.777	2460
2470	70.777	70.810	70.843	70.877	70.910	70.943	70.976	71.009	71.042	71.076	71.109	2470
2480	71.109	71.142	71.175	71.208	71.242	71.275	71.308	71.341	71.374	71.408	71.441	2490
2490	71.441	71.474	71.507	71.540	71.574	71.607	71.640	71.673	71.707	71.740	71.773	2490
2500	71.773	71.806	71.839	71.873	71.906	71.939	71.972	72.005	72.039	72.072	72.105	2500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 12 Nickel–18 % Molybdenum versus Nickel–0.8 % Cobalt thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2500	71.773	71.806	71.839	71.873	71.906	71.939	71.972	72.005	72.039	72.072	72.105	**2500**
2510	72.105	72.138	72.172	72.205	72.238	72.271	72.305	72.338	72.371	72.404	72.438	**2510**
2520	72.438	72.471	72.504	72.537	72.571	72.604	72.637	72.670	72.704	72.737	72.770	**2520**
2530	72.770	72.803	72.837	72.870	72.903	72.937	72.970	73.003	73.036	73.070	73.103	**2530**
2540	73.103	73.136	73.170	73.203	73.236	73.270	73.303	73.336	73.370	73.403	73.436	**2540**
2550	73.436	73.470	73.503	73.536	73.570	73.603	73.636	73.670	73.703	73.736	73.770	**2550**
2560	73.770	73.803	73.837	73.870	73.903	73.937	73.970	74.004	74.037	74.070	74.104	**2560**
2570	74.104											**2570**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Nickel - 18% Molybdenum versus Nickel - 0.8% Cobalt thermocouples.

−58 °F to 699.44 °F

$$c_0 = -6.419\,172\,644\,2 \times 10^{-01}$$
$$c_1 = 1.961\,446\,957\,4 \times 10^{-02}$$
$$c_2 = 1.406\,065\,341\,9 \times 10^{-05}$$
$$c_3 = -4.037\,219\,496\,6 \times 10^{-09}$$
$$c_4 = -1.136\,775\,021\,4 \times 10^{-11}$$
$$c_5 = 1.020\,509\,109\,5 \times 10^{-14}$$
$$c_6 = -1.621\,160\,508\,8 \times 10^{-18}$$
$$c_7 = -5.544\,392\,085\,6 \times 10^{-21}$$

699.44 °F to 2570 °F

$$c_0 = -1.541\,289\,727\,4 \times 10^{01}$$
$$c_1 = 1.333\,749\,810\,7 \times 10^{-01}$$
$$c_2 = -3.196\,963\,722\,1 \times 10^{-04}$$
$$c_3 = 5.183\,798\,791\,5 \times 10^{-07}$$
$$c_4 = -5.267\,382\,602\,2 \times 10^{-10}$$
$$c_5 = 3.546\,495\,472\,3 \times 10^{-13}$$
$$c_6 = -1.580\,510\,746\,2 \times 10^{-16}$$
$$c_7 = 4.476\,399\,925\,6 \times 10^{-20}$$
$$c_8 = -7.285\,742\,126\,7 \times 10^{-24}$$
$$c_9 = 5.180\,502\,872\,5 \times 10^{-28}$$

TABLE 13 Iridium-40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

Thermoelectric Voltage in Millivolts

°C	0	1	2	3	4	5	6	7	8	9	10	°C
0	0.000	0.003	0.006	0.009	0.012	0.016	0.019	0.022	0.025	0.028	0.032	0
10	0.032	0.035	0.038	0.041	0.045	0.048	0.051	0.054	0.058	0.061	0.064	10
20	0.064	0.068	0.071	0.075	0.078	0.081	0.085	0.088	0.092	0.095	0.099	20
30	0.099	0.102	0.106	0.109	0.113	0.116	0.120	0.123	0.127	0.131	0.134	30
40	0.134	0.138	0.141	0.145	0.149	0.152	0.156	0.160	0.163	0.167	0.171	40
50	0.171	0.175	0.178	0.182	0.186	0.190	0.193	0.197	0.201	0.205	0.209	50
60	0.209	0.212	0.216	0.220	0.224	0.228	0.232	0.236	0.240	0.244	0.248	60
70	0.248	0.252	0.256	0.260	0.264	0.268	0.272	0.276	0.280	0.284	0.288	70
80	0.288	0.292	0.296	0.300	0.304	0.308	0.312	0.316	0.320	0.325	0.329	80
90	0.329	0.333	0.337	0.341	0.346	0.350	0.354	0.358	0.362	0.367	0.371	90
100	0.371	0.375	0.379	0.384	0.388	0.392	0.397	0.401	0.405	0.410	0.414	100
110	0.414	0.418	0.423	0.427	0.432	0.436	0.440	0.445	0.449	0.454	0.458	110
120	0.458	0.463	0.467	0.471	0.476	0.480	0.485	0.489	0.494	0.499	0.503	120
130	0.503	0.508	0.512	0.517	0.521	0.526	0.530	0.535	0.540	0.544	0.549	130
140	0.549	0.554	0.558	0.563	0.567	0.572	0.577	0.582	0.586	0.591	0.596	140
150	0.596	0.600	0.605	0.610	0.615	0.619	0.624	0.629	0.634	0.638	0.643	150
160	0.643	0.648	0.653	0.658	0.662	0.667	0.672	0.677	0.682	0.687	0.691	160
170	0.691	0.696	0.701	0.706	0.711	0.716	0.721	0.726	0.731	0.736	0.741	170
180	0.741	0.746	0.750	0.755	0.760	0.765	0.770	0.775	0.780	0.785	0.790	180
190	0.790	0.795	0.800	0.806	0.811	0.816	0.821	0.826	0.831	0.836	0.841	190
200	0.841	0.846	0.851	0.856	0.861	0.866	0.872	0.877	0.882	0.887	0.892	200
210	0.892	0.897	0.903	0.908	0.913	0.918	0.923	0.928	0.934	0.939	0.944	210
220	0.944	0.949	0.955	0.960	0.965	0.970	0.976	0.981	0.986	0.991	0.997	220
230	0.997	1.002	1.007	1.012	1.018	1.023	1.028	1.034	1.039	1.044	1.050	230
240	1.050	1.055	1.060	1.066	1.071	1.077	1.082	1.087	1.093	1.098	1.103	240
250	1.103	1.109	1.114	1.120	1.125	1.130	1.136	1.141	1.147	1.152	1.158	250
260	1.158	1.163	1.169	1.174	1.180	1.185	1.190	1.196	1.201	1.207	1.212	260
270	1.212	1.218	1.223	1.229	1.234	1.240	1.246	1.251	1.257	1.262	1.268	270
280	1.268	1.273	1.279	1.284	1.290	1.296	1.301	1.307	1.312	1.318	1.323	280
290	1.323	1.329	1.335	1.340	1.346	1.351	1.357	1.363	1.368	1.374	1.380	290
300	1.380	1.385	1.391	1.397	1.402	1.408	1.414	1.419	1.425	1.431	1.436	300
310	1.436	1.442	1.448	1.453	1.459	1.465	1.470	1.476	1.482	1.488	1.493	310
320	1.493	1.499	1.505	1.510	1.516	1.522	1.528	1.533	1.539	1.545	1.551	320
330	1.551	1.556	1.562	1.568	1.574	1.579	1.585	1.591	1.597	1.603	1.608	330
340	1.608	1.614	1.620	1.626	1.631	1.637	1.643	1.649	1.655	1.661	1.666	340
350	1.666	1.672	1.678	1.684	1.690	1.695	1.701	1.707	1.713	1.719	1.725	350
360	1.725	1.731	1.736	1.742	1.748	1.754	1.760	1.766	1.772	1.777	1.783	360
370	1.783	1.789	1.795	1.801	1.807	1.813	1.819	1.824	1.830	1.836	1.842	370
380	1.842	1.848	1.854	1.860	1.866	1.872	1.878	1.883	1.889	1.895	1.901	380
390	1.901	1.907	1.913	1.919	1.925	1.931	1.937	1.943	1.949	1.955	1.961	390
400	1.961	1.966	1.972	1.978	1.984	1.990	1.996	2.002	2.008	2.014	2.020	400
410	2.020	2.026	2.032	2.038	2.044	2.050	2.056	2.062	2.068	2.074	2.080	410
420	2.080	2.086	2.092	2.098	2.104	2.110	2.116	2.122	2.128	2.134	2.140	420
430	2.140	2.146	2.152	2.158	2.164	2.170	2.176	2.182	2.188	2.194	2.200	430
440	2.200	2.206	2.212	2.218	2.224	2.230	2.236	2.242	2.248	2.254	2.260	440
450	2.260	2.266	2.272	2.278	2.284	2.290	2.296	2.302	2.308	2.314	2.320	450
460	2.320	2.326	2.332	2.338	2.344	2.350	2.356	2.362	2.368	2.374	2.380	460
470	2.380	2.386	2.392	2.399	2.405	2.411	2.417	2.423	2.429	2.435	2.441	470
480	2.441	2.447	2.453	2.459	2.465	2.471	2.477	2.483	2.489	2.495	2.502	480
490	2.502	2.508	2.514	2.520	2.526	2.532	2.538	2.544	2.550	2.556	2.562	490
500	2.562	2.568	2.574	2.580	2.587	2.593	2.599	2.605	2.611	2.617	2.623	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 13 Iridium-40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
500	2.562	2.568	2.574	2.580	2.587	2.593	2.599	2.605	2.611	2.617	2.623	500
510	2.623	2.629	2.635	2.641	2.647	2.653	2.660	2.666	2.672	2.678	2.684	510
520	2.684	2.690	2.696	2.702	2.708	2.714	2.720	2.727	2.733	2.739	2.745	520
530	2.745	2.751	2.757	2.763	2.769	2.775	2.781	2.788	2.794	2.800	2.806	530
540	2.806	2.812	2.818	2.824	2.830	2.836	2.842	2.849	2.855	2.861	2.867	540
550	2.867	2.873	2.879	2.885	2.891	2.897	2.904	2.910	2.916	2.922	2.928	550
560	2.928	2.934	2.940	2.946	2.952	2.959	2.965	2.971	2.977	2.983	2.989	560
570	2.989	2.995	3.001	3.007	3.014	3.020	3.026	3.032	3.038	3.044	3.050	570
580	3.050	3.056	3.062	3.069	3.075	3.081	3.087	3.093	3.099	3.105	3.111	580
590	3.111	3.117	3.123	3.130	3.136	3.142	3.148	3.154	3.160	3.166	3.172	590
600	3.172	3.178	3.184	3.191	3.197	3.203	3.209	3.215	3.221	3.227	3.233	600
610	3.233	3.239	3.245	3.251	3.257	3.264	3.270	3.276	3.282	3.288	3.294	610
620	3.294	3.300	3.306	3.312	3.318	3.324	3.330	3.336	3.342	3.348	3.354	620
630	3.354	3.360	3.366	3.372	3.378	3.384	3.390	3.396	3.402	3.408	3.414	630
640	3.414	3.420	3.426	3.432	3.438	3.444	3.450	3.456	3.462	3.468	3.474	640
650	3.474	3.481	3.487	3.493	3.499	3.505	3.511	3.517	3.523	3.528	3.534	650
660	3.534	3.540	3.546	3.552	3.558	3.564	3.570	3.576	3.582	3.588	3.594	660
670	3.594	3.600	3.606	3.612	3.618	3.624	3.630	3.636	3.642	3.648	3.654	670
680	3.654	3.660	3.666	3.672	3.678	3.684	3.690	3.696	3.702	3.708	3.714	680
690	3.714	3.720	3.726	3.732	3.738	3.744	3.750	3.756	3.761	3.767	3.773	690
700	3.773	3.779	3.785	3.791	3.797	3.803	3.809	3.815	3.821	3.827	3.833	700
710	3.833	3.839	3.845	3.851	3.857	3.862	3.868	3.874	3.880	3.886	3.892	710
720	3.892	3.898	3.904	3.910	3.916	3.922	3.928	3.933	3.939	3.945	3.951	720
730	3.951	3.957	3.963	3.969	3.975	3.981	3.987	3.993	3.998	4.004	4.010	730
740	4.010	4.016	4.022	4.028	4.034	4.040	4.046	4.051	4.057	4.063	4.069	740
750	4.069	4.075	4.081	4.087	4.093	4.098	4.104	4.110	4.116	4.122	4.128	750
760	4.128	4.134	4.140	4.145	4.151	4.157	4.163	4.169	4.175	4.181	4.186	760
770	4.186	4.192	4.198	4.204	4.210	4.216	4.221	4.227	4.233	4.239	4.245	770
780	4.245	4.251	4.257	4.262	4.268	4.274	4.280	4.286	4.291	4.297	4.303	780
790	4.303	4.309	4.315	4.321	4.326	4.332	4.338	4.344	4.350	4.355	4.361	790
800	4.361	4.367	4.373	4.379	4.384	4.390	4.396	4.402	4.408	4.413	4.419	800
810	4.419	4.425	4.431	4.437	4.442	4.448	4.454	4.460	4.465	4.471	4.477	810
820	4.477	4.483	4.489	4.494	4.500	4.506	4.512	4.517	4.523	4.529	4.535	820
830	4.535	4.540	4.546	4.552	4.558	4.563	4.569	4.575	4.581	4.586	4.592	830
840	4.592	4.598	4.604	4.609	4.615	4.621	4.627	4.632	4.638	4.644	4.649	840
850	4.649	4.655	4.661	4.667	4.672	4.678	4.684	4.689	4.695	4.701	4.707	850
860	4.707	4.712	4.718	4.724	4.729	4.735	4.741	4.746	4.752	4.758	4.764	860
870	4.764	4.769	4.775	4.781	4.786	4.792	4.798	4.803	4.809	4.815	4.820	870
880	4.820	4.826	4.832	4.837	4.843	4.849	4.854	4.860	4.866	4.871	4.877	880
890	4.877	4.883	4.888	4.894	4.900	4.905	4.911	4.917	4.922	4.928	4.933	890
900	4.933	4.939	4.945	4.950	4.956	4.962	4.967	4.973	4.979	4.984	4.990	900
910	4.990	4.995	5.001	5.007	5.012	5.018	5.024	5.029	5.035	5.040	5.046	910
920	5.046	5.052	5.057	5.063	5.068	5.074	5.080	5.085	5.091	5.096	5.102	920
930	5.102	5.108	5.113	5.119	5.124	5.130	5.135	5.141	5.147	5.152	5.158	930
940	5.158	5.163	5.169	5.174	5.180	5.186	5.191	5.197	5.202	5.208	5.213	940
950	5.213	5.219	5.224	5.230	5.236	5.241	5.247	5.252	5.258	5.263	5.269	950
960	5.269	5.274	5.280	5.285	5.291	5.297	5.302	5.308	5.313	5.319	5.324	960
970	5.324	5.330	5.335	5.341	5.346	5.352	5.357	5.363	5.368	5.374	5.379	970
980	5.379	5.385	5.390	5.396	5.401	5.407	5.412	5.418	5.423	5.429	5.434	980
990	5.434	5.440	5.445	5.451	5.456	5.462	5.467	5.473	5.478	5.484	5.489	990
1000	5.489	5.495	5.500	5.506	5.511	5.516	5.522	5.527	5.533	5.538	5.544	1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 13 Iridium-40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1000	5.489	5.495	5.500	5.506	5.511	5.516	5.522	5.527	5.533	5.538	5.544	**1000**
1010	5.544	5.549	5.555	5.560	5.566	5.571	5.577	5.582	5.587	5.593	5.598	**1010**
1020	5.598	5.604	5.609	5.615	5.620	5.626	5.631	5.636	5.642	5.647	5.653	**1020**
1030	5.653	5.658	5.664	5.669	5.674	5.680	5.685	5.691	5.696	5.701	5.707	**1030**
1040	5.707	5.712	5.718	5.723	5.729	5.734	5.739	5.745	5.750	5.756	5.761	**1040**
1050	5.761	5.766	5.772	5.777	5.783	5.788	5.793	5.799	5.804	5.809	5.815	**1050**
1060	5.815	5.820	5.826	5.831	5.836	5.842	5.847	5.852	5.858	5.863	5.869	**1060**
1070	5.869	5.874	5.879	5.885	5.890	5.895	5.901	5.906	5.911	5.917	5.922	**1070**
1080	5.922	5.928	5.933	5.938	5.944	5.949	5.954	5.960	5.965	5.970	5.976	**1080**
1090	5.976	5.981	5.986	5.992	5.997	6.002	6.008	6.013	6.018	6.024	6.029	**1090**
1100	6.029	6.034	6.040	6.045	6.050	6.056	6.061	6.066	6.072	6.077	6.082	**1100**
1110	6.082	6.088	6.093	6.098	6.103	6.109	6.114	6.119	6.125	6.130	6.135	**1110**
1120	6.135	6.141	6.146	6.151	6.156	6.162	6.167	6.172	6.178	6.183	6.188	**1120**
1130	6.188	6.193	6.199	6.204	6.209	6.215	6.220	6.225	6.230	6.236	6.241	**1130**
1140	6.241	6.246	6.252	6.257	6.262	6.267	6.273	6.278	6.283	6.288	6.294	**1140**
1150	6.294	6.299	6.304	6.309	6.315	6.320	6.325	6.330	6.336	6.341	6.346	**1150**
1160	6.346	6.351	6.357	6.362	6.367	6.372	6.378	6.383	6.388	6.393	6.399	**1160**
1170	6.399	6.404	6.409	6.414	6.420	6.425	6.430	6.435	6.441	6.446	6.451	**1170**
1180	6.451	6.456	6.461	6.467	6.472	6.477	6.482	6.488	6.493	6.498	6.503	**1180**
1190	6.503	6.508	6.514	6.519	6.524	6.529	6.535	6.540	6.545	6.550	6.555	**1190**
1200	6.555	6.561	6.566	6.571	6.576	6.581	6.587	6.592	6.597	6.602	6.607	**1200**
1210	6.607	6.613	6.618	6.623	6.628	6.633	6.639	6.644	6.649	6.654	6.659	**1210**
1220	6.659	6.664	6.670	6.675	6.680	6.685	6.690	6.696	6.701	6.706	6.711	**1220**
1230	6.711	6.716	6.721	6.727	6.732	6.737	6.742	6.747	6.752	6.758	6.763	**1230**
1240	6.763	6.768	6.773	6.778	6.783	6.789	6.794	6.799	6.804	6.809	6.814	**1240**
1250	6.814	6.820	6.825	6.830	6.835	6.840	6.845	6.851	6.856	6.861	6.866	**1250**
1260	6.866	6.871	6.876	6.881	6.887	6.892	6.897	6.902	6.907	6.912	6.918	**1260**
1270	6.918	6.923	6.928	6.933	6.938	6.943	6.948	6.953	6.959	6.964	6.969	**1270**
1280	6.969	6.974	6.979	6.984	6.989	6.995	7.000	7.005	7.010	7.015	7.020	**1280**
1290	7.020	7.025	7.030	7.036	7.041	7.046	7.051	7.056	7.061	7.066	7.072	**1290**
1300	7.072	7.077	7.082	7.087	7.092	7.097	7.102	7.107	7.112	7.118	7.123	**1300**
1310	7.123	7.128	7.133	7.138	7.143	7.148	7.153	7.159	7.164	7.169	7.174	**1310**
1320	7.174	7.179	7.184	7.189	7.194	7.199	7.205	7.210	7.215	7.220	7.225	**1320**
1330	7.225	7.230	7.235	7.240	7.245	7.250	7.256	7.261	7.266	7.271	7.276	**1330**
1340	7.276	7.281	7.286	7.291	7.296	7.302	7.307	7.312	7.317	7.322	7.327	**1340**
1350	7.327	7.332	7.337	7.342	7.347	7.352	7.358	7.363	7.368	7.373	7.378	**1350**
1360	7.378	7.383	7.388	7.393	7.398	7.403	7.409	7.414	7.419	7.424	7.429	**1360**
1370	7.429	7.434	7.439	7.444	7.449	7.454	7.459	7.465	7.470	7.475	7.480	**1370**
1380	7.480	7.485	7.490	7.495	7.500	7.505	7.510	7.515	7.520	7.526	7.531	**1380**
1390	7.531	7.536	7.541	7.546	7.551	7.556	7.561	7.566	7.571	7.576	7.581	**1390**
1400	7.581	7.587	7.592	7.597	7.602	7.607	7.612	7.617	7.622	7.627	7.632	**1400**
1410	7.632	7.637	7.642	7.648	7.653	7.658	7.663	7.668	7.673	7.678	7.683	**1410**
1420	7.683	7.688	7.693	7.698	7.703	7.709	7.714	7.719	7.724	7.729	7.734	**1420**
1430	7.734	7.739	7.744	7.749	7.754	7.759	7.764	7.769	7.775	7.780	7.785	**1430**
1440	7.785	7.790	7.795	7.800	7.805	7.810	7.815	7.820	7.825	7.830	7.835	**1440**
1450	7.835	7.841	7.846	7.851	7.856	7.861	7.866	7.871	7.876	7.881	7.886	**1450**
1460	7.886	7.891	7.896	7.902	7.907	7.912	7.917	7.922	7.927	7.932	7.937	**1460**
1470	7.937	7.942	7.947	7.952	7.957	7.963	7.968	7.973	7.978	7.983	7.988	**1470**
1480	7.988	7.993	7.998	8.003	8.008	8.013	8.018	8.023	8.029	8.034	8.039	**1480**
1490	8.039	8.044	8.049	8.054	8.059	8.064	8.069	8.074	8.079	8.085	8.090	**1490**
1500	8.090	8.095	8.100	8.105	8.110	8.115	8.120	8.125	8.130	8.135	8.140	**1500**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

TABLE 13 Iridium-40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
1500	8.090	8.095	8.100	8.105	8.110	8.115	8.120	8.125	8.130	8.135	8.140	1500
1510	8.140	8.146	8.151	8.156	8.161	8.166	8.171	8.176	8.181	8.186	8.191	1510
1520	8.191	8.196	8.202	8.207	8.212	8.217	8.222	8.227	8.232	8.237	8.242	1520
1530	8.242	8.247	8.253	8.258	8.263	8.268	8.273	8.278	8.283	8.288	8.293	1530
1540	8.293	8.298	8.304	8.309	8.314	8.319	8.324	8.329	8.334	8.339	8.344	1540
1550	8.344	8.349	8.355	8.360	8.365	8.370	8.375	8.380	8.385	8.390	8.395	1550
1560	8.395	8.401	8.406	8.411	8.416	8.421	8.426	8.431	8.436	8.441	8.447	1560
1570	8.447	8.452	8.457	8.462	8.467	8.472	8.477	8.482	8.487	8.493	8.498	1570
1580	8.498	8.503	8.508	8.513	8.518	8.523	8.528	8.534	8.539	8.544	8.549	1580
1590	8.549	8.554	8.559	8.564	8.569	8.575	8.580	8.585	8.590	8.595	8.600	1590
1600	8.600	8.605	8.610	8.616	8.621	8.626	8.631	8.636	8.641	8.646	8.652	1600
1610	8.652	8.657	8.662	8.667	8.672	8.677	8.682	8.688	8.693	8.698	8.703	1610
1620	8.703	8.708	8.713	8.718	8.724	8.729	8.734	8.739	8.744	8.749	8.754	1620
1630	8.754	8.760	8.765	8.770	8.775	8.780	8.785	8.791	8.796	8.801	8.806	1630
1640	8.806	8.811	8.816	8.822	8.827	8.832	8.837	8.842	8.847	8.853	8.858	1640
1650	8.858	8.863	8.868	8.873	8.878	8.884	8.889	8.894	8.899	8.904	8.909	1650
1660	8.909	8.915	8.920	8.925	8.930	8.935	8.941	8.946	8.951	8.956	8.961	1660
1670	8.961	8.967	8.972	8.977	8.982	8.987	8.992	8.998	9.003	9.008	9.013	1670
1680	9.013	9.018	9.024	9.029	9.034	9.039	9.044	9.050	9.055	9.060	9.065	1680
1690	9.065	9.070	9.076	9.081	9.086	9.091	9.097	9.102	9.107	9.112	9.117	1690
1700	9.117	9.123	9.128	9.133	9.138	9.143	9.149	9.154	9.159	9.164	9.170	1700
1710	9.170	9.175	9.180	9.185	9.191	9.196	9.201	9.206	9.211	9.217	9.222	1710
1720	9.222	9.227	9.232	9.238	9.243	9.248	9.253	9.259	9.264	9.269	9.274	1720
1730	9.274	9.280	9.285	9.290	9.295	9.301	9.306	9.311	9.316	9.322	9.327	1730
1740	9.327	9.332	9.337	9.343	9.348	9.353	9.358	9.364	9.369	9.374	9.380	1740
1750	9.380	9.385	9.390	9.395	9.401	9.406	9.411	9.416	9.422	9.427	9.432	1750
1760	9.432	9.438	9.443	9.448	9.453	9.459	9.464	9.469	9.475	9.480	9.485	1760
1770	9.485	9.490	9.496	9.501	9.506	9.512	9.517	9.522	9.528	9.533	9.538	1770
1780	9.538	9.543	9.549	9.554	9.559	9.565	9.570	9.575	9.581	9.586	9.591	1780
1790	9.591	9.597	9.602	9.607	9.613	9.618	9.623	9.629	9.634	9.639	9.645	1790
1800	9.645	9.650	9.655	9.661	9.666	9.671	9.677	9.682	9.687	9.693	9.698	1800
1810	9.698	9.703	9.709	9.714	9.719	9.725	9.730	9.735	9.741	9.746	9.751	1810
1820	9.751	9.757	9.762	9.768	9.773	9.778	9.784	9.789	9.794	9.800	9.805	1820
1830	9.805	9.810	9.816	9.821	9.827	9.832	9.837	9.843	9.848	9.854	9.859	1830
1840	9.859	9.864	9.870	9.875	9.880	9.886	9.891	9.897	9.902	9.907	9.913	1840
1850	9.913	9.918	9.924	9.929	9.934	9.940	9.945	9.951	9.956	9.961	9.967	1850
1860	9.967	9.972	9.978	9.983	9.989	9.994	9.999	10.005	10.010	10.016	10.021	1860
1870	10.021	10.027	10.032	10.037	10.043	10.048	10.054	10.059	10.065	10.070	10.075	1870
1880	10.075	10.081	10.086	10.092	10.097	10.103	10.108	10.114	10.119	10.124	10.130	1880
1890	10.130	10.135	10.141	10.146	10.152	10.157	10.163	10.168	10.174	10.179	10.185	1890
1900	10.185	10.190	10.195	10.201	10.206	10.212	10.217	10.223	10.228	10.234	10.239	1900
1910	10.239	10.245	10.250	10.256	10.261	10.267	10.272	10.278	10.283	10.289	10.294	1910
1920	10.294	10.300	10.305	10.311	10.316	10.322	10.327	10.333	10.338	10.344	10.349	1920
1930	10.349	10.355	10.360	10.366	10.371	10.377	10.382	10.388	10.393	10.399	10.404	1930
1940	10.404	10.410	10.416	10.421	10.427	10.432	10.438	10.443	10.449	10.454	10.460	1940
1950	10.460	10.465	10.471	10.476	10.482	10.488	10.493	10.499	10.504	10.510	10.515	1950
1960	10.515	10.521	10.526	10.532	10.538	10.543	10.549	10.554	10.560	10.565	10.571	1960
1970	10.571	10.577	10.582	10.588	10.593	10.599	10.604	10.610	10.616	10.621	10.627	1970
1980	10.627	10.632	10.638	10.644	10.649	10.655	10.660	10.666	10.671	10.677	10.683	1980
1990	10.683	10.688	10.694	10.700	10.705	10.711	10.716	10.722	10.728	10.733	10.739	1990
2000	10.739	10.744	10.750	10.756	10.761	10.767	10.773	10.778	10.784	10.789	10.795	2000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 13 Iridium-40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Millivolts						
2000	10.739	10.744	10.750	10.756	10.761	10.767	10.773	10.778	10.784	10.789	10.795	**2000**
2010	10.795	10.801	10.806	10.812	10.818	10.823	10.829	10.834	10.840	10.846	10.851	**2010**
2020	10.851	10.857	10.863	10.868	10.874	10.880	10.885	10.891	10.897	10.902	10.908	**2020**
2030	10.908	10.914	10.919	10.925	10.931	10.936	10.942	10.948	10.953	10.959	10.965	**2030**
2040	10.965	10.970	10.976	10.982	10.987	10.993	10.999	11.004	11.010	11.016	11.021	**2040**
2050	11.021	11.027	11.033	11.039	11.044	11.050	11.056	11.061	11.067	11.073	11.078	**2050**
2060	11.078	11.084	11.090	11.096	11.101	11.107	11.113	11.118	11.124	11.130	11.136	**2060**
2070	11.136	11.141	11.147	11.153	11.158	11.164	11.170	11.176	11.181	11.187	11.193	**2070**
2080	11.193	11.199	11.204	11.210	11.216	11.222	11.227	11.233	11.239	11.244	11.250	**2080**
2090	11.250	11.256	11.262	11.267	11.273	11.279	11.285	11.290	11.296	11.302	11.308	**2090**
2100	11.308	11.314	11.319	11.325	11.331	11.337	11.342	11.348	11.354	11.360	11.365	**2100**
2110	11.365											**2110**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Iridium - 40% Rhodium versus Iridium thermocouples.

0 °C to 630.615 °C

$$c_0 = 0.000\,000\,0$$
$$c_1 = 3.087\,001\,6 \times 10^{-03}$$
$$c_2 = 6.964\,977\,3 \times 10^{-06}$$
$$c_3 = -7.889\,050\,4 \times 10^{-09}$$
$$c_4 = 2.770\,059\,1 \times 10^{-12}$$
$$c_5 = 2.676\,241\,3 \times 10^{-14}$$
$$c_6 = -1.041\,804\,0 \times 10^{-16}$$
$$c_7 = 1.527\,086\,7 \times 10^{-19}$$
$$c_8 = -7.963\,408\,2 \times 10^{-23}$$

630.615 °C to 2110 °C

$$c_0 = -9.683\,908\,2 \times 10^{-02}$$
$$c_1 = 3.658\,861\,5 \times 10^{-03}$$
$$c_2 = 5.745\,518\,9 \times 10^{-06}$$
$$c_3 = -6.054\,794\,3 \times 10^{-09}$$
$$c_4 = 2.723\,539\,3 \times 10^{-12}$$
$$c_5 = -5.179\,703\,7 \times 10^{-16}$$
$$c_6 = 3.082\,188\,6 \times 10^{-20}$$

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

Thermoelectric Voltage in Millivolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F
30			0.000	0.002	0.003	0.005	0.007	0.009	0.010	0.012	0.014	30
40	0.014	0.016	0.017	0.019	0.021	0.023	0.024	0.026	0.028	0.030	0.032	40
50	0.032	0.033	0.035	0.037	0.039	0.041	0.042	0.044	0.046	0.048	0.050	50
60	0.050	0.052	0.053	0.055	0.057	0.059	0.061	0.063	0.064	0.066	0.068	60
70	0.068	0.070	0.072	0.074	0.076	0.078	0.080	0.081	0.083	0.085	0.087	70
80	0.087	0.089	0.091	0.093	0.095	0.097	0.099	0.101	0.103	0.104	0.106	80
90	0.106	0.108	0.110	0.112	0.114	0.116	0.118	0.120	0.122	0.124	0.126	90
100	0.126	0.128	0.130	0.132	0.134	0.136	0.138	0.140	0.142	0.144	0.146	100
110	0.146	0.148	0.150	0.152	0.154	0.156	0.158	0.160	0.163	0.165	0.167	110
120	0.167	0.169	0.171	0.173	0.175	0.177	0.179	0.181	0.183	0.185	0.187	120
130	0.187	0.190	0.192	0.194	0.196	0.198	0.200	0.202	0.204	0.207	0.209	130
140	0.209	0.211	0.213	0.215	0.217	0.219	0.222	0.224	0.226	0.228	0.230	140
150	0.230	0.232	0.234	0.237	0.239	0.241	0.243	0.245	0.248	0.250	0.252	150
160	0.252	0.254	0.256	0.259	0.261	0.263	0.265	0.268	0.270	0.272	0.274	160
170	0.274	0.276	0.279	0.281	0.283	0.285	0.288	0.290	0.292	0.294	0.297	170
180	0.297	0.299	0.301	0.304	0.306	0.308	0.310	0.313	0.315	0.317	0.320	180
190	0.320	0.322	0.324	0.326	0.329	0.331	0.333	0.336	0.338	0.340	0.343	190
200	0.343	0.345	0.347	0.350	0.352	0.354	0.357	0.359	0.361	0.364	0.366	200
210	0.366	0.369	0.371	0.373	0.376	0.378	0.380	0.383	0.385	0.388	0.390	210
220	0.390	0.392	0.395	0.397	0.400	0.402	0.404	0.407	0.409	0.412	0.414	220
230	0.414	0.416	0.419	0.421	0.424	0.426	0.429	0.431	0.433	0.436	0.438	230
240	0.438	0.441	0.443	0.446	0.448	0.451	0.453	0.456	0.458	0.461	0.463	240
250	0.463	0.466	0.468	0.470	0.473	0.475	0.478	0.480	0.483	0.485	0.488	250
260	0.488	0.490	0.493	0.495	0.498	0.501	0.503	0.506	0.508	0.511	0.513	260
270	0.513	0.516	0.518	0.521	0.523	0.526	0.528	0.531	0.534	0.536	0.539	270
280	0.539	0.541	0.544	0.546	0.549	0.551	0.554	0.557	0.559	0.562	0.564	280
290	0.564	0.567	0.570	0.572	0.575	0.577	0.580	0.583	0.585	0.588	0.590	290
300	0.590	0.593	0.596	0.598	0.601	0.603	0.606	0.609	0.611	0.614	0.617	300
310	0.617	0.619	0.622	0.625	0.627	0.630	0.633	0.635	0.638	0.640	0.643	310
320	0.643	0.646	0.648	0.651	0.654	0.657	0.659	0.662	0.665	0.667	0.670	320
330	0.670	0.673	0.675	0.678	0.681	0.683	0.686	0.689	0.691	0.694	0.697	330
340	0.697	0.700	0.702	0.705	0.708	0.710	0.713	0.716	0.719	0.721	0.724	340
350	0.724	0.727	0.730	0.732	0.735	0.738	0.741	0.743	0.746	0.749	0.752	350
360	0.752	0.754	0.757	0.760	0.763	0.765	0.768	0.771	0.774	0.777	0.779	360
370	0.779	0.782	0.785	0.788	0.790	0.793	0.796	0.799	0.802	0.804	0.807	370
380	0.807	0.810	0.813	0.816	0.818	0.821	0.824	0.827	0.830	0.832	0.835	380
390	0.835	0.838	0.841	0.844	0.847	0.849	0.852	0.855	0.858	0.861	0.864	390
400	0.864	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.886	0.889	0.892	400
410	0.892	0.895	0.898	0.901	0.904	0.907	0.909	0.912	0.915	0.918	0.921	410
420	0.921	0.924	0.927	0.930	0.932	0.935	0.938	0.941	0.944	0.947	0.950	420
430	0.950	0.953	0.956	0.959	0.962	0.964	0.967	0.970	0.973	0.976	0.979	430
440	0.979	0.982	0.985	0.988	0.991	0.994	0.997	1.000	1.002	1.005	1.008	440
450	1.008	1.011	1.014	1.017	1.020	1.023	1.026	1.029	1.032	1.035	1.038	450
460	1.038	1.041	1.044	1.047	1.050	1.053	1.056	1.059	1.062	1.065	1.068	460
470	1.068	1.071	1.074	1.077	1.079	1.082	1.085	1.088	1.091	1.094	1.097	470
480	1.097	1.100	1.103	1.106	1.109	1.112	1.115	1.118	1.121	1.124	1.127	480
490	1.127	1.130	1.133	1.137	1.140	1.143	1.146	1.149	1.152	1.155	1.158	490
500	1.158	1.161	1.164	1.167	1.170	1.173	1.176	1.179	1.182	1.185	1.188	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
500	1.158	1.161	1.164	1.167	1.170	1.173	1.176	1.179	1.182	1.185	1.188	**500**
510	1.188	1.191	1.194	1.197	1.200	1.203	1.206	1.209	1.212	1.216	1.219	**510**
520	1.219	1.222	1.225	1.228	1.231	1.234	1.237	1.240	1.243	1.246	1.249	**520**
530	1.249	1.252	1.255	1.258	1.262	1.265	1.268	1.271	1.274	1.277	1.280	**530**
540	1.280	1.283	1.286	1.289	1.292	1.296	1.299	1.302	1.305	1.308	1.311	**540**
550	1.311	1.314	1.317	1.320	1.323	1.327	1.330	1.333	1.336	1.339	1.342	**550**
560	1.342	1.345	1.348	1.351	1.355	1.358	1.361	1.364	1.367	1.370	1.373	**560**
570	1.373	1.377	1.380	1.383	1.386	1.389	1.392	1.395	1.398	1.402	1.405	**570**
580	1.405	1.408	1.411	1.414	1.417	1.420	1.424	1.427	1.430	1.433	1.436	**580**
590	1.436	1.439	1.443	1.446	1.449	1.452	1.455	1.458	1.462	1.465	1.468	**590**
600	1.468	1.471	1.474	1.477	1.481	1.484	1.487	1.490	1.493	1.496	1.500	**600**
610	1.500	1.503	1.506	1.509	1.512	1.516	1.519	1.522	1.525	1.528	1.531	**610**
620	1.531	1.535	1.538	1.541	1.544	1.547	1.551	1.554	1.557	1.560	1.563	**620**
630	1.563	1.567	1.570	1.573	1.576	1.579	1.583	1.586	1.589	1.592	1.595	**630**
640	1.595	1.599	1.602	1.605	1.608	1.612	1.615	1.618	1.621	1.624	1.628	**640**
650	1.628	1.631	1.634	1.637	1.641	1.644	1.647	1.650	1.653	1.657	1.660	**650**
660	1.660	1.663	1.666	1.670	1.673	1.676	1.679	1.683	1.686	1.689	1.692	**660**
670	1.692	1.695	1.699	1.702	1.705	1.708	1.712	1.715	1.718	1.721	1.725	**670**
680	1.725	1.728	1.731	1.734	1.738	1.741	1.744	1.747	1.751	1.754	1.757	**680**
690	1.757	1.760	1.764	1.767	1.770	1.774	1.777	1.780	1.783	1.787	1.790	**690**
700	1.790	1.793	1.796	1.800	1.803	1.806	1.809	1.813	1.816	1.819	1.822	**700**
710	1.822	1.826	1.829	1.832	1.836	1.839	1.842	1.845	1.849	1.852	1.855	**710**
720	1.855	1.859	1.862	1.865	1.868	1.872	1.875	1.878	1.882	1.885	1.888	**720**
730	1.888	1.891	1.895	1.898	1.901	1.905	1.908	1.911	1.914	1.918	1.921	**730**
740	1.921	1.924	1.928	1.931	1.934	1.937	1.941	1.944	1.947	1.951	1.954	**740**
750	1.954	1.957	1.961	1.964	1.967	1.970	1.974	1.977	1.980	1.984	1.987	**750**
760	1.987	1.990	1.994	1.997	2.000	2.004	2.007	2.010	2.013	2.017	2.020	**760**
770	2.020	2.023	2.027	2.030	2.033	2.037	2.040	2.043	2.047	2.050	2.053	**770**
780	2.053	2.057	2.060	2.063	2.066	2.070	2.073	2.076	2.080	2.083	2.086	**780**
790	2.086	2.090	2.093	2.096	2.100	2.103	2.106	2.110	2.113	2.116	2.120	**790**
800	2.120	2.123	2.126	2.130	2.133	2.136	2.140	2.143	2.146	2.150	2.153	**800**
810	2.153	2.156	2.160	2.163	2.166	2.170	2.173	2.176	2.180	2.183	2.186	**810**
820	2.186	2.190	2.193	2.196	2.200	2.203	2.206	2.210	2.213	2.216	2.220	**820**
830	2.220	2.223	2.226	2.230	2.233	2.236	2.240	2.243	2.246	2.250	2.253	**830**
840	2.253	2.256	2.260	2.263	2.266	2.270	2.273	2.276	2.280	2.283	2.287	**840**
850	2.287	2.290	2.293	2.297	2.300	2.303	2.307	2.310	2.313	2.317	2.320	**850**
860	2.320	2.323	2.327	2.330	2.333	2.337	2.340	2.343	2.347	2.350	2.354	**860**
870	2.354	2.357	2.360	2.364	2.367	2.370	2.374	2.377	2.380	2.384	2.387	**870**
880	2.387	2.390	2.394	2.397	2.401	2.404	2.407	2.411	2.414	2.417	2.421	**880**
890	2.421	2.424	2.427	2.431	2.434	2.438	2.441	2.444	2.448	2.451	2.454	**890**
900	2.454	2.458	2.461	2.464	2.468	2.471	2.475	2.478	2.481	2.485	2.488	**900**
910	2.488	2.491	2.495	2.498	2.502	2.505	2.508	2.512	2.515	2.518	2.522	**910**
920	2.522	2.525	2.528	2.532	2.535	2.539	2.542	2.545	2.549	2.552	2.555	**920**
930	2.555	2.559	2.562	2.566	2.569	2.572	2.576	2.579	2.582	2.586	2.589	**930**
940	2.589	2.593	2.596	2.599	2.603	2.606	2.609	2.613	2.616	2.620	2.623	**940**
950	2.623	2.626	2.630	2.633	2.637	2.640	2.643	2.647	2.650	2.653	2.657	**950**
960	2.657	2.660	2.664	2.667	2.670	2.674	2.677	2.680	2.684	2.687	2.691	**960**
970	2.691	2.694	2.697	2.701	2.704	2.708	2.711	2.714	2.718	2.721	2.725	**970**
980	2.725	2.728	2.731	2.735	2.738	2.741	2.745	2.748	2.752	2.755	2.758	**980**
990	2.758	2.762	2.765	2.769	2.772	2.775	2.779	2.782	2.785	2.789	2.792	**990**
1000	2.792	2.796	2.799	2.802	2.806	2.809	2.813	2.816	2.819	2.823	2.826	**1000**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1000	2.792	2.796	2.799	2.802	2.806	2.809	2.813	2.816	2.819	2.823	2.826	1000
1010	2.826	2.830	2.833	2.836	2.840	2.843	2.847	2.850	2.853	2.857	2.860	1010
1020	2.860	2.864	2.867	2.870	2.874	2.877	2.880	2.884	2.887	2.891	2.894	1020
1030	2.894	2.897	2.901	2.904	2.908	2.911	2.914	2.918	2.921	2.925	2.928	1030
1040	2.928	2.931	2.935	2.938	2.942	2.945	2.948	2.952	2.955	2.959	2.962	1040
1050	2.962	2.965	2.969	2.972	2.976	2.979	2.982	2.986	2.989	2.993	2.996	1050
1060	2.996	2.999	3.003	3.006	3.009	3.013	3.016	3.020	3.023	3.026	3.030	1060
1070	3.030	3.033	3.037	3.040	3.043	3.047	3.050	3.054	3.057	3.060	3.064	1070
1080	3.064	3.067	3.071	3.074	3.077	3.081	3.084	3.088	3.091	3.094	3.098	1080
1090	3.098	3.101	3.105	3.108	3.111	3.115	3.118	3.121	3.125	3.128	3.132	1090
1100	3.132	3.135	3.138	3.142	3.145	3.149	3.152	3.155	3.159	3.162	3.166	1100
1110	3.166	3.169	3.172	3.176	3.179	3.182	3.186	3.189	3.193	3.196	3.199	1110
1120	3.199	3.203	3.206	3.209	3.213	3.216	3.220	3.223	3.226	3.230	3.233	1120
1130	3.233	3.237	3.240	3.243	3.247	3.250	3.253	3.257	3.260	3.264	3.267	1130
1140	3.267	3.270	3.274	3.277	3.280	3.284	3.287	3.290	3.294	3.297	3.301	1140
1150	3.301	3.304	3.307	3.311	3.314	3.317	3.321	3.324	3.327	3.331	3.334	1150
1160	3.334	3.337	3.341	3.344	3.348	3.351	3.354	3.358	3.361	3.364	3.368	1160
1170	3.368	3.371	3.374	3.378	3.381	3.384	3.388	3.391	3.394	3.398	3.401	1170
1180	3.401	3.404	3.408	3.411	3.414	3.418	3.421	3.424	3.428	3.431	3.434	1180
1190	3.434	3.438	3.441	3.444	3.448	3.451	3.454	3.458	3.461	3.464	3.468	1190
1200	3.468	3.471	3.474	3.478	3.481	3.485	3.488	3.491	3.495	3.498	3.501	1200
1210	3.501	3.505	3.508	3.511	3.515	3.518	3.521	3.525	3.528	3.531	3.534	1210
1220	3.534	3.538	3.541	3.544	3.548	3.551	3.554	3.558	3.561	3.564	3.568	1220
1230	3.568	3.571	3.574	3.578	3.581	3.584	3.588	3.591	3.594	3.598	3.601	1230
1240	3.601	3.604	3.608	3.611	3.614	3.618	3.621	3.624	3.628	3.631	3.634	1240
1250	3.634	3.638	3.641	3.644	3.648	3.651	3.654	3.657	3.661	3.664	3.667	1250
1260	3.667	3.671	3.674	3.677	3.681	3.684	3.687	3.691	3.694	3.697	3.701	1260
1270	3.701	3.704	3.707	3.711	3.714	3.717	3.720	3.724	3.727	3.730	3.734	1270
1280	3.734	3.737	3.740	3.744	3.747	3.750	3.754	3.757	3.760	3.763	3.767	1280
1290	3.767	3.770	3.773	3.777	3.780	3.783	3.787	3.790	3.793	3.796	3.800	1290
1300	3.800	3.803	3.806	3.810	3.813	3.816	3.820	3.823	3.826	3.829	3.833	1300
1310	3.833	3.836	3.839	3.843	3.846	3.849	3.853	3.856	3.859	3.862	3.866	1310
1320	3.866	3.869	3.872	3.876	3.879	3.882	3.885	3.889	3.892	3.895	3.899	1320
1330	3.899	3.902	3.905	3.909	3.912	3.915	3.918	3.922	3.925	3.928	3.932	1330
1340	3.932	3.935	3.938	3.941	3.945	3.948	3.951	3.955	3.958	3.961	3.964	1340
1350	3.964	3.968	3.971	3.974	3.977	3.981	3.984	3.987	3.991	3.994	3.997	1350
1360	3.997	4.000	4.004	4.007	4.010	4.014	4.017	4.020	4.023	4.027	4.030	1360
1370	4.030	4.033	4.036	4.040	4.043	4.046	4.050	4.053	4.056	4.059	4.063	1370
1380	4.063	4.066	4.069	4.072	4.076	4.079	4.082	4.085	4.089	4.092	4.095	1380
1390	4.095	4.098	4.102	4.105	4.108	4.112	4.115	4.118	4.121	4.125	4.128	1390
1400	4.128	4.131	4.134	4.138	4.141	4.144	4.147	4.151	4.154	4.157	4.160	1400
1410	4.160	4.164	4.167	4.170	4.173	4.177	4.180	4.183	4.186	4.190	4.193	1410
1420	4.193	4.196	4.199	4.203	4.206	4.209	4.212	4.216	4.219	4.222	4.225	1420
1430	4.225	4.229	4.232	4.235	4.238	4.242	4.245	4.248	4.251	4.255	4.258	1430
1440	4.258	4.261	4.264	4.268	4.271	4.274	4.277	4.280	4.284	4.287	4.290	1440
1450	4.290	4.293	4.297	4.300	4.303	4.306	4.310	4.313	4.316	4.319	4.323	1450
1460	4.323	4.326	4.329	4.332	4.335	4.339	4.342	4.345	4.348	4.352	4.355	1460
1470	4.355	4.358	4.361	4.364	4.368	4.371	4.374	4.377	4.381	4.384	4.387	1470
1480	4.387	4.390	4.393	4.397	4.400	4.403	4.406	4.410	4.413	4.416	4.419	1480
1490	4.419	4.422	4.426	4.429	4.432	4.435	4.438	4.442	4.445	4.448	4.451	1490
1500	4.451	4.455	4.458	4.461	4.464	4.467	4.471	4.474	4.477	4.480	4.483	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
1500	4.451	4.455	4.458	4.461	4.464	4.467	4.471	4.474	4.477	4.480	4.483	1500
1510	4.483	4.487	4.490	4.493	4.496	4.499	4.503	4.506	4.509	4.512	4.515	1510
1520	4.515	4.519	4.522	4.525	4.528	4.531	4.535	4.538	4.541	4.544	4.547	1520
1530	4.547	4.551	4.554	4.557	4.560	4.563	4.567	4.570	4.573	4.576	4.579	1530
1540	4.579	4.583	4.586	4.589	4.592	4.595	4.598	4.602	4.605	4.608	4.611	1540
1550	4.611	4.614	4.618	4.621	4.624	4.627	4.630	4.634	4.637	4.640	4.643	1550
1560	4.643	4.646	4.649	4.653	4.656	4.659	4.662	4.665	4.669	4.672	4.675	1560
1570	4.675	4.678	4.681	4.684	4.688	4.691	4.694	4.697	4.700	4.703	4.707	1570
1580	4.707	4.710	4.713	4.716	4.719	4.722	4.726	4.729	4.732	4.735	4.738	1580
1590	4.738	4.741	4.745	4.748	4.751	4.754	4.757	4.760	4.764	4.767	4.770	1590
1600	4.770	4.773	4.776	4.779	4.783	4.786	4.789	4.792	4.795	4.798	4.801	1600
1610	4.801	4.805	4.808	4.811	4.814	4.817	4.820	4.824	4.827	4.830	4.833	1610
1620	4.833	4.836	4.839	4.842	4.846	4.849	4.852	4.855	4.858	4.861	4.864	1620
1630	4.864	4.868	4.871	4.874	4.877	4.880	4.883	4.886	4.890	4.893	4.896	1630
1640	4.896	4.899	4.902	4.905	4.908	4.912	4.915	4.918	4.921	4.924	4.927	1640
1650	4.927	4.930	4.933	4.937	4.940	4.943	4.946	4.949	4.952	4.955	4.959	1650
1660	4.959	4.962	4.965	4.968	4.971	4.974	4.977	4.980	4.984	4.987	4.990	1660
1670	4.990	4.993	4.996	4.999	5.002	5.005	5.009	5.012	5.015	5.018	5.021	1670
1680	5.021	5.024	5.027	5.030	5.033	5.037	5.040	5.043	5.046	5.049	5.052	1680
1690	5.052	5.055	5.058	5.062	5.065	5.068	5.071	5.074	5.077	5.080	5.083	1690
1700	5.083	5.086	5.090	5.093	5.096	5.099	5.102	5.105	5.108	5.111	5.114	1700
1710	5.114	5.117	5.121	5.124	5.127	5.130	5.133	5.136	5.139	5.142	5.145	1710
1720	5.145	5.148	5.152	5.155	5.158	5.161	5.164	5.167	5.170	5.173	5.176	1720
1730	5.176	5.179	5.182	5.186	5.189	5.192	5.195	5.198	5.201	5.204	5.207	1730
1740	5.207	5.210	5.213	5.216	5.220	5.223	5.226	5.229	5.232	5.235	5.238	1740
1750	5.238	5.241	5.244	5.247	5.250	5.253	5.257	5.260	5.263	5.266	5.269	1750
1760	5.269	5.272	5.275	5.278	5.281	5.284	5.287	5.290	5.293	5.297	5.300	1760
1770	5.300	5.303	5.306	5.309	5.312	5.315	5.318	5.321	5.324	5.327	5.330	1770
1780	5.330	5.333	5.336	5.340	5.343	5.346	5.349	5.352	5.355	5.358	5.361	1780
1790	5.361	5.364	5.367	5.370	5.373	5.376	5.379	5.382	5.385	5.388	5.392	1790
1800	5.392	5.395	5.398	5.401	5.404	5.407	5.410	5.413	5.416	5.419	5.422	1800
1810	5.422	5.425	5.428	5.431	5.434	5.437	5.440	5.443	5.447	5.450	5.453	1810
1820	5.453	5.456	5.459	5.462	5.465	5.468	5.471	5.474	5.477	5.480	5.483	1820
1830	5.483	5.486	5.489	5.492	5.495	5.498	5.501	5.504	5.507	5.510	5.513	1830
1840	5.513	5.516	5.520	5.523	5.526	5.529	5.532	5.535	5.538	5.541	5.544	1840
1850	5.544	5.547	5.550	5.553	5.556	5.559	5.562	5.565	5.568	5.571	5.574	1850
1860	5.574	5.577	5.580	5.583	5.586	5.589	5.592	5.595	5.598	5.601	5.604	1860
1870	5.604	5.607	5.610	5.613	5.616	5.619	5.622	5.626	5.629	5.632	5.635	1870
1880	5.635	5.638	5.641	5.644	5.647	5.650	5.653	5.656	5.659	5.662	5.665	1880
1890	5.665	5.668	5.671	5.674	5.677	5.680	5.683	5.686	5.689	5.692	5.695	1890
1900	5.695	5.698	5.701	5.704	5.707	5.710	5.713	5.716	5.719	5.722	5.725	1900
1910	5.725	5.728	5.731	5.734	5.737	5.740	5.743	5.746	5.749	5.752	5.755	1910
1920	5.755	5.758	5.761	5.764	5.767	5.770	5.773	5.776	5.779	5.782	5.785	1920
1930	5.785	5.788	5.791	5.794	5.797	5.800	5.803	5.806	5.809	5.812	5.815	1930
1940	5.815	5.818	5.821	5.824	5.827	5.830	5.833	5.836	5.839	5.842	5.845	1940
1950	5.845	5.848	5.851	5.854	5.857	5.860	5.863	5.866	5.869	5.872	5.875	1950
1960	5.875	5.878	5.881	5.883	5.886	5.889	5.892	5.895	5.898	5.901	5.904	1960
1970	5.904	5.907	5.910	5.913	5.916	5.919	5.922	5.925	5.928	5.931	5.934	1970
1980	5.934	5.937	5.940	5.943	5.946	5.949	5.952	5.955	5.958	5.961	5.964	1980
1990	5.964	5.967	5.970	5.973	5.976	5.979	5.982	5.985	5.988	5.990	5.993	1990
2000	5.993	5.996	5.999	6.002	6.005	6.008	6.011	6.014	6.017	6.020	6.023	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2000	5.993	5.996	5.999	6.002	6.005	6.008	6.011	6.014	6.017	6.020	6.023	2000
2010	6.023	6.026	6.029	6.032	6.035	6.038	6.041	6.044	6.047	6.050	6.053	2010
2020	6.053	6.056	6.059	6.062	6.064	6.067	6.070	6.073	6.076	6.079	6.082	2020
2030	6.082	6.085	6.088	6.091	6.094	6.097	6.100	6.103	6.106	6.109	6.112	2030
2040	6.112	6.115	6.118	6.121	6.123	6.126	6.129	6.132	6.135	6.138	6.141	2040
2050	6.141	6.144	6.147	6.150	6.153	6.156	6.159	6.162	6.165	6.168	6.171	2050
2060	6.171	6.173	6.176	6.179	6.182	6.185	6.188	6.191	6.194	6.197	6.200	2060
2070	6.200	6.203	6.206	6.209	6.212	6.215	6.218	6.220	6.223	6.226	6.229	2070
2080	6.229	6.232	6.235	6.238	6.241	6.244	6.247	6.250	6.253	6.256	6.259	2080
2090	6.259	6.261	6.264	6.267	6.270	6.273	6.276	6.279	6.282	6.285	6.288	2090
2100	6.288	6.291	6.294	6.297	6.300	6.302	6.305	6.308	6.311	6.314	6.317	2100
2110	6.317	6.320	6.323	6.326	6.329	6.332	6.335	6.337	6.340	6.343	6.346	2110
2120	6.346	6.349	6.352	6.355	6.358	6.361	6.364	6.367	6.370	6.372	6.375	2120
2130	6.375	6.378	6.381	6.384	6.387	6.390	6.393	6.396	6.399	6.402	6.404	2130
2140	6.404	6.407	6.410	6.413	6.416	6.419	6.422	6.425	6.428	6.431	6.434	2140
2150	6.434	6.436	6.439	6.442	6.445	6.448	6.451	6.454	6.457	6.460	6.463	2150
2160	6.463	6.466	6.468	6.471	6.474	6.477	6.480	6.483	6.486	6.489	6.492	2160
2170	6.492	6.495	6.497	6.500	6.503	6.506	6.509	6.512	6.515	6.518	6.521	2170
2180	6.521	6.524	6.526	6.529	6.532	6.535	6.538	6.541	6.544	6.547	6.550	2180
2190	6.550	6.552	6.555	6.558	6.561	6.564	6.567	6.570	6.573	6.576	6.578	2190
2200	6.578	6.581	6.584	6.587	6.590	6.593	6.596	6.599	6.602	6.604	6.607	2200
2210	6.607	6.610	6.613	6.616	6.619	6.622	6.625	6.628	6.630	6.633	6.636	2210
2220	6.636	6.639	6.642	6.645	6.648	6.651	6.654	6.656	6.659	6.662	6.665	2220
2230	6.665	6.668	6.671	6.674	6.677	6.679	6.682	6.685	6.688	6.691	6.694	2230
2240	6.694	6.697	6.700	6.702	6.705	6.708	6.711	6.714	6.717	6.720	6.723	2240
2250	6.723	6.725	6.728	6.731	6.734	6.737	6.740	6.743	6.746	6.748	6.751	2250
2260	6.751	6.754	6.757	6.760	6.763	6.766	6.769	6.771	6.774	6.777	6.780	2260
2270	6.780	6.783	6.786	6.789	6.792	6.794	6.797	6.800	6.803	6.806	6.809	2270
2280	6.809	6.812	6.814	6.817	6.820	6.823	6.826	6.829	6.832	6.835	6.837	2280
2290	6.837	6.840	6.843	6.846	6.849	6.852	6.855	6.857	6.860	6.863	6.866	2290
2300	6.866	6.869	6.872	6.875	6.877	6.880	6.883	6.886	6.889	6.892	6.895	2300
2310	6.895	6.897	6.900	6.903	6.906	6.909	6.912	6.915	6.918	6.920	6.923	2310
2320	6.923	6.926	6.929	6.932	6.935	6.938	6.940	6.943	6.946	6.949	6.952	2320
2330	6.952	6.955	6.957	6.960	6.963	6.966	6.969	6.972	6.975	6.977	6.980	2330
2340	6.980	6.983	6.986	6.989	6.992	6.995	6.997	7.000	7.003	7.006	7.009	2340
2350	7.009	7.012	7.015	7.017	7.020	7.023	7.026	7.029	7.032	7.034	7.037	2350
2360	7.037	7.040	7.043	7.046	7.049	7.052	7.054	7.057	7.060	7.063	7.066	2360
2370	7.066	7.069	7.072	7.074	7.077	7.080	7.083	7.086	7.089	7.091	7.094	2370
2380	7.094	7.097	7.100	7.103	7.106	7.108	7.111	7.114	7.117	7.120	7.123	2380
2390	7.123	7.126	7.128	7.131	7.134	7.137	7.140	7.143	7.145	7.148	7.151	2390
2400	7.151	7.154	7.157	7.160	7.163	7.165	7.168	7.171	7.174	7.177	7.180	2400
2410	7.180	7.182	7.185	7.188	7.191	7.194	7.197	7.199	7.202	7.205	7.208	2410
2420	7.208	7.211	7.214	7.216	7.219	7.222	7.225	7.228	7.231	7.233	7.236	2420
2430	7.236	7.239	7.242	7.245	7.248	7.250	7.253	7.256	7.259	7.262	7.265	2430
2440	7.265	7.267	7.270	7.273	7.276	7.279	7.282	7.285	7.287	7.290	7.293	2440
2450	7.293	7.296	7.299	7.302	7.304	7.307	7.310	7.313	7.316	7.319	7.321	2450
2460	7.321	7.324	7.327	7.330	7.333	7.335	7.338	7.341	7.344	7.347	7.350	2460
2470	7.350	7.352	7.355	7.358	7.361	7.364	7.367	7.369	7.372	7.375	7.378	2470
2480	7.378	7.381	7.384	7.386	7.389	7.392	7.395	7.398	7.401	7.403	7.406	2480
2490	7.406	7.409	7.412	7.415	7.418	7.420	7.423	7.426	7.429	7.432	7.435	2490
2500	7.435	7.437	7.440	7.443	7.446	7.449	7.452	7.454	7.457	7.460	7.463	2500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 14 Iridium−40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
2500	7.435	7.437	7.440	7.443	7.446	7.449	7.452	7.454	7.457	7.460	7.463	**2500**
2510	7.463	7.466	7.468	7.471	7.474	7.477	7.480	7.483	7.485	7.488	7.491	**2510**
2520	7.491	7.494	7.497	7.500	7.502	7.505	7.508	7.511	7.514	7.517	7.519	**2520**
2530	7.519	7.522	7.525	7.528	7.531	7.533	7.536	7.539	7.542	7.545	7.548	**2530**
2540	7.548	7.550	7.553	7.556	7.559	7.562	7.565	7.567	7.570	7.573	7.576	**2540**
2550	7.576	7.579	7.581	7.584	7.587	7.590	7.593	7.596	7.598	7.601	7.604	**2550**
2560	7.604	7.607	7.610	7.613	7.615	7.618	7.621	7.624	7.627	7.629	7.632	**2560**
2570	7.632	7.635	7.638	7.641	7.644	7.646	7.649	7.652	7.655	7.658	7.661	**2570**
2580	7.661	7.663	7.666	7.669	7.672	7.675	7.677	7.680	7.683	7.686	7.689	**2580**
2590	7.689	7.692	7.694	7.697	7.700	7.703	7.706	7.709	7.711	7.714	7.717	**2590**
2600	7.717	7.720	7.723	7.725	7.728	7.731	7.734	7.737	7.740	7.742	7.745	**2600**
2610	7.745	7.748	7.751	7.754	7.756	7.759	7.762	7.765	7.768	7.771	7.773	**2610**
2620	7.773	7.776	7.779	7.782	7.785	7.788	7.790	7.793	7.796	7.799	7.802	**2620**
2630	7.802	7.804	7.807	7.810	7.813	7.816	7.819	7.821	7.824	7.827	7.830	**2630**
2640	7.830	7.833	7.835	7.838	7.841	7.844	7.847	7.850	7.852	7.855	7.858	**2640**
2650	7.858	7.861	7.864	7.867	7.869	7.872	7.875	7.878	7.881	7.883	7.886	**2650**
2660	7.886	7.889	7.892	7.895	7.898	7.900	7.903	7.906	7.909	7.912	7.915	**2660**
2670	7.915	7.917	7.920	7.923	7.926	7.929	7.931	7.934	7.937	7.940	7.943	**2670**
2680	7.943	7.946	7.948	7.951	7.954	7.957	7.960	7.963	7.965	7.968	7.971	**2680**
2690	7.971	7.974	7.977	7.979	7.982	7.985	7.988	7.991	7.994	7.996	7.999	**2690**
2700	7.999	8.002	8.005	8.008	8.011	8.013	8.016	8.019	8.022	8.025	8.027	**2700**
2710	8.027	8.030	8.033	8.036	8.039	8.042	8.044	8.047	8.050	8.053	8.056	**2710**
2720	8.056	8.059	8.061	8.064	8.067	8.070	8.073	8.075	8.078	8.081	8.084	**2720**
2730	8.084	8.087	8.090	8.092	8.095	8.098	8.101	8.104	8.107	8.109	8.112	**2730**
2740	8.112	8.115	8.118	8.121	8.124	8.126	8.129	8.132	8.135	8.138	8.140	**2740**
2750	8.140	8.143	8.146	8.149	8.152	8.155	8.157	8.160	8.163	8.166	8.169	**2750**
2760	8.169	8.172	8.174	8.177	8.180	8.183	8.186	8.189	8.191	8.194	8.197	**2760**
2770	8.197	8.200	8.203	8.206	8.208	8.211	8.214	8.217	8.220	8.223	8.225	**2770**
2780	8.225	8.228	8.231	8.234	8.237	8.239	8.242	8.245	8.248	8.251	8.254	**2780**
2790	8.254	8.256	8.259	8.262	8.265	8.268	8.271	8.273	8.276	8.279	8.282	**2790**
2800	8.282	8.285	8.288	8.290	8.293	8.296	8.299	8.302	8.305	8.307	8.310	**2800**
2810	8.310	8.313	8.316	8.319	8.322	8.324	8.327	8.330	8.333	8.336	8.339	**2810**
2820	8.339	8.341	8.344	8.347	8.350	8.353	8.356	8.359	8.361	8.364	8.367	**2820**
2830	8.367	8.370	8.373	8.376	8.378	8.381	8.384	8.387	8.390	8.393	8.395	**2830**
2840	8.395	8.398	8.401	8.404	8.407	8.410	8.412	8.415	8.418	8.421	8.424	**2840**
2850	8.424	8.427	8.429	8.432	8.435	8.438	8.441	8.444	8.447	8.449	8.452	**2850**
2860	8.452	8.455	8.458	8.461	8.464	8.466	8.469	8.472	8.475	8.478	8.481	**2860**
2870	8.481	8.483	8.486	8.489	8.492	8.495	8.498	8.501	8.503	8.506	8.509	**2870**
2880	8.509	8.512	8.515	8.518	8.520	8.523	8.526	8.529	8.532	8.535	8.538	**2880**
2890	8.538	8.540	8.543	8.546	8.549	8.552	8.555	8.557	8.560	8.563	8.566	**2890**
2900	8.566	8.569	8.572	8.575	8.577	8.580	8.583	8.586	8.589	8.592	8.595	**2900**
2910	8.595	8.597	8.600	8.603	8.606	8.609	8.612	8.614	8.617	8.620	8.623	**2910**
2920	8.623	8.626	8.629	8.632	8.634	8.637	8.640	8.643	8.646	8.649	8.652	**2920**
2930	8.652	8.654	8.657	8.660	8.663	8.666	8.669	8.672	8.674	8.677	8.680	**2930**
2940	8.680	8.683	8.686	8.689	8.692	8.694	8.697	8.700	8.703	8.706	8.709	**2940**
2950	8.709	8.712	8.714	8.717	8.720	8.723	8.726	8.729	8.732	8.734	8.737	**2950**
2960	8.737	8.740	8.743	8.746	8.749	8.752	8.754	8.757	8.760	8.763	8.766	**2960**
2970	8.766	8.769	8.772	8.775	8.777	8.780	8.783	8.786	8.789	8.792	8.795	**2970**
2980	8.795	8.797	8.800	8.803	8.806	8.809	8.812	8.815	8.818	8.820	8.823	**2980**
2990	8.823	8.826	8.829	8.832	8.835	8.838	8.841	8.843	8.846	8.849	8.852	**2990**
3000	8.852	8.855	8.858	8.861	8.863	8.866	8.869	8.872	8.875	8.878	8.881	**3000**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
3000	8.852	8.855	8.858	8.861	8.863	8.866	8.869	8.872	8.875	8.878	8.881	**3000**
3010	8.881	8.884	8.886	8.889	8.892	8.895	8.898	8.901	8.904	8.907	8.909	**3010**
3020	8.909	8.912	8.915	8.918	8.921	8.924	8.927	8.930	8.933	8.935	8.938	**3020**
3030	8.938	8.941	8.944	8.947	8.950	8.953	8.956	8.958	8.961	8.964	8.967	**3030**
3040	8.967	8.970	8.973	8.976	8.979	8.981	8.984	8.987	8.990	8.993	8.996	**3040**
3050	8.996	8.999	9.002	9.005	9.007	9.010	9.013	9.016	9.019	9.022	9.025	**3050**
3060	9.025	9.028	9.031	9.033	9.036	9.039	9.042	9.045	9.048	9.051	9.054	**3060**
3070	9.054	9.057	9.059	9.062	9.065	9.068	9.071	9.074	9.077	9.080	9.083	**3070**
3080	9.083	9.086	9.088	9.091	9.094	9.097	9.100	9.103	9.106	9.109	9.112	**3080**
3090	9.112	9.114	9.117	9.120	9.123	9.126	9.129	9.132	9.135	9.138	9.141	**3090**
3100	9.141	9.143	9.146	9.149	9.152	9.155	9.158	9.161	9.164	9.167	9.170	**3100**
3110	9.170	9.172	9.175	9.178	9.181	9.184	9.187	9.190	9.193	9.196	9.199	**3110**
3120	9.199	9.202	9.204	9.207	9.210	9.213	9.216	9.219	9.222	9.225	9.228	**3120**
3130	9.228	9.231	9.234	9.236	9.239	9.242	9.245	9.248	9.251	9.254	9.257	**3130**
3140	9.257	9.260	9.263	9.266	9.269	9.271	9.274	9.277	9.280	9.283	9.286	**3140**
3150	9.286	9.289	9.292	9.295	9.298	9.301	9.304	9.306	9.309	9.312	9.315	**3150**
3160	9.315	9.318	9.321	9.324	9.327	9.330	9.333	9.336	9.339	9.341	9.344	**3160**
3170	9.344	9.347	9.350	9.353	9.356	9.359	9.362	9.365	9.368	9.371	9.374	**3170**
3180	9.374	9.377	9.380	9.382	9.385	9.388	9.391	9.394	9.397	9.400	9.403	**3180**
3190	9.403	9.406	9.409	9.412	9.415	9.418	9.421	9.423	9.426	9.429	9.432	**3190**
3200	9.432	9.435	9.438	9.441	9.444	9.447	9.450	9.453	9.456	9.459	9.462	**3200**
3210	9.462	9.465	9.468	9.470	9.473	9.476	9.479	9.482	9.485	9.488	9.491	**3210**
3220	9.491	9.494	9.497	9.500	9.503	9.506	9.509	9.512	9.515	9.518	9.521	**3220**
3230	9.521	9.523	9.526	9.529	9.532	9.535	9.538	9.541	9.544	9.547	9.550	**3230**
3240	9.550	9.553	9.556	9.559	9.562	9.565	9.568	9.571	9.574	9.577	9.580	**3240**
3250	9.580	9.582	9.585	9.588	9.591	9.594	9.597	9.600	9.603	9.606	9.609	**3250**
3260	9.609	9.612	9.615	9.618	9.621	9.624	9.627	9.630	9.633	9.636	9.639	**3260**
3270	9.639	9.642	9.645	9.648	9.651	9.653	9.656	9.659	9.662	9.665	9.668	**3270**
3280	9.668	9.671	9.674	9.677	9.680	9.683	9.686	9.689	9.692	9.695	9.698	**3280**
3290	9.698	9.701	9.704	9.707	9.710	9.713	9.716	9.719	9.722	9.725	9.728	**3290**
3300	9.728	9.731	9.734	9.737	9.740	9.743	9.746	9.749	9.751	9.754	9.757	**3300**
3310	9.757	9.760	9.763	9.766	9.769	9.772	9.775	9.778	9.781	9.784	9.787	**3310**
3320	9.787	9.790	9.793	9.796	9.799	9.802	9.805	9.808	9.811	9.814	9.817	**3320**
3330	9.817	9.820	9.823	9.826	9.829	9.832	9.835	9.838	9.841	9.844	9.847	**3330**
3340	9.847	9.850	9.853	9.856	9.859	9.862	9.865	9.868	9.871	9.874	9.877	**3340**
3350	9.877	9.880	9.883	9.886	9.889	9.892	9.895	9.898	9.901	9.904	9.907	**3350**
3360	9.907	9.910	9.913	9.916	9.919	9.922	9.925	9.928	9.931	9.934	9.937	**3360**
3370	9.937	9.940	9.943	9.946	9.949	9.952	9.955	9.958	9.961	9.964	9.967	**3370**
3380	9.967	9.970	9.973	9.976	9.979	9.982	9.985	9.988	9.991	9.994	9.997	**3380**
3390	9.997	10.000	10.003	10.006	10.009	10.012	10.015	10.018	10.021	10.024	10.027	**3390**
3400	10.027	10.030	10.033	10.036	10.039	10.042	10.045	10.048	10.051	10.054	10.057	**3400**
3410	10.057	10.060	10.063	10.066	10.069	10.072	10.075	10.078	10.081	10.084	10.088	**3410**
3420	10.088	10.091	10.094	10.097	10.100	10.103	10.106	10.109	10.112	10.115	10.118	**3420**
3430	10.118	10.121	10.124	10.127	10.130	10.133	10.136	10.139	10.142	10.145	10.148	**3430**
3440	10.148	10.151	10.154	10.157	10.160	10.163	10.166	10.169	10.172	10.175	10.178	**3440**
3450	10.178	10.181	10.185	10.188	10.191	10.194	10.197	10.200	10.203	10.206	10.209	**3450**
3460	10.209	10.212	10.215	10.218	10.221	10.224	10.227	10.230	10.233	10.236	10.239	**3460**
3470	10.239	10.242	10.245	10.248	10.251	10.255	10.258	10.261	10.264	10.267	10.270	**3470**
3480	10.270	10.273	10.276	10.279	10.282	10.285	10.288	10.291	10.294	10.297	10.300	**3480**
3490	10.300	10.303	10.306	10.309	10.313	10.316	10.319	10.322	10.325	10.328	10.331	**3490**
3500	10.331	10.334	10.337	10.340	10.343	10.346	10.349	10.352	10.355	10.358	10.361	**3500**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 14 Iridium–40 % Rhodium versus Iridium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Millivolts						
3500	10.331	10.334	10.337	10.340	10.343	10.346	10.349	10.352	10.355	10.358	10.361	**3500**
3510	10.361	10.365	10.368	10.371	10.374	10.377	10.380	10.383	10.386	10.389	10.392	**3510**
3520	10.392	10.395	10.398	10.401	10.404	10.408	10.411	10.414	10.417	10.420	10.423	**3520**
3530	10.423	10.426	10.429	10.432	10.435	10.438	10.441	10.444	10.447	10.451	10.454	**3530**
3540	10.454	10.457	10.460	10.463	10.466	10.469	10.472	10.475	10.478	10.481	10.484	**3540**
3550	10.484	10.488	10.491	10.494	10.497	10.500	10.503	10.506	10.509	10.512	10.515	**3550**
3560	10.515	10.518	10.521	10.525	10.528	10.531	10.534	10.537	10.540	10.543	10.546	**3560**
3570	10.546	10.549	10.552	10.555	10.559	10.562	10.565	10.568	10.571	10.574	10.577	**3570**
3580	10.577	10.580	10.583	10.586	10.590	10.593	10.596	10.599	10.602	10.605	10.608	**3580**
3590	10.608	10.611	10.614	10.617	10.621	10.624	10.627	10.630	10.633	10.636	10.639	**3590**
3600	10.639	10.642	10.645	10.648	10.652	10.655	10.658	10.661	10.664	10.667	10.670	**3600**
3610	10.670	10.673	10.676	10.680	10.683	10.686	10.689	10.692	10.695	10.698	10.701	**3610**
3620	10.701	10.704	10.708	10.711	10.714	10.717	10.720	10.723	10.726	10.729	10.733	**3620**
3630	10.733	10.736	10.739	10.742	10.745	10.748	10.751	10.754	10.758	10.761	10.764	**3630**
3640	10.764	10.767	10.770	10.773	10.776	10.779	10.783	10.786	10.789	10.792	10.795	**3640**
3650	10.795	10.798	10.801	10.804	10.808	10.811	10.814	10.817	10.820	10.823	10.826	**3650**
3660	10.826	10.829	10.833	10.836	10.839	10.842	10.845	10.848	10.851	10.855	10.858	**3660**
3670	10.858	10.861	10.864	10.867	10.870	10.873	10.877	10.880	10.883	10.886	10.889	**3670**
3680	10.889	10.892	10.895	10.899	10.902	10.905	10.908	10.911	10.914	10.917	10.921	**3680**
3690	10.921	10.924	10.927	10.930	10.933	10.936	10.939	10.943	10.946	10.949	10.952	**3690**
3700	10.952	10.955	10.958	10.961	10.965	10.968	10.971	10.974	10.977	10.980	10.984	**3700**
3710	10.984	10.987	10.990	10.993	10.996	10.999	11.003	11.006	11.009	11.012	11.015	**3710**
3720	11.015	11.018	11.021	11.025	11.028	11.031	11.034	11.037	11.040	11.044	11.047	**3720**
3730	11.047	11.050	11.053	11.056	11.059	11.063	11.066	11.069	11.072	11.075	11.078	**3730**
3740	11.078	11.082	11.085	11.088	11.091	11.094	11.097	11.101	11.104	11.107	11.110	**3740**
3750	11.110	11.113	11.117	11.120	11.123	11.126	11.129	11.132	11.136	11.139	11.142	**3750**
3760	11.142	11.145	11.148	11.151	11.155	11.158	11.161	11.164	11.167	11.171	11.174	**3760**
3770	11.174	11.177	11.180	11.183	11.186	11.190	11.193	11.196	11.199	11.202	11.206	**3770**
3780	11.206	11.209	11.212	11.215	11.218	11.222	11.225	11.228	11.231	11.234	11.237	**3780**
3790	11.237	11.241	11.244	11.247	11.250	11.253	11.257	11.260	11.263	11.266	11.269	**3790**
3800	11.269	11.273	11.276	11.279	11.282	11.285	11.289	11.292	11.295	11.298	11.301	**3800**
3810	11.301	11.305	11.308	11.311	11.314	11.317	11.321	11.324	11.327	11.330	11.333	**3810**
3820	11.333	11.337	11.340	11.343	11.346	11.349	11.353	11.356	11.359	11.362	11.365	**3820**
3830	11.365											**3830**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Iridium - 40% Rhodium versus Iridium thermocouples.

32 °F to 1167.107 °F

$$c_0 = -5.263\,419\,914 \times 10^{-02}$$
$$c_1 = 1.573\,238\,988 \times 10^{-03}$$
$$c_2 = 2.280\,652\,466 \times 10^{-06}$$
$$c_3 = -1.369\,890\,436 \times 10^{-09}$$
$$c_4 = -1.269\,832\,136 \times 10^{-14}$$
$$c_5 = 2.059\,390\,434 \times 10^{-15}$$
$$c_6 = -3.642\,481\,524 \times 10^{-18}$$
$$c_7 = 2.679\,337\,473 \times 10^{-21}$$
$$c_8 = -7.226\,349\,127 \times 10^{-25}$$

1167.107 °F to 3830 °F

$$c_0 = -1.600\,353\,491 \times 10^{-01}$$
$$c_1 = 1.915\,985\,614 \times 10^{-03}$$
$$c_2 = 1.874\,578\,704 \times 10^{-06}$$
$$c_3 = -1.071\,692\,161 \times 10^{-09}$$
$$c_4 = 2.638\,438\,543 \times 10^{-13}$$
$$c_5 = -2.758\,609\,563 \times 10^{-17}$$
$$c_6 = 9.062\,002\,411 \times 10^{-22}$$

TABLE 15 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Microvolts						
0	0.0	6.1	12.1	18.3	24.5	30.7	36.9	43.2	49.5	55.9	62.3	0
10	62.3	68.7	75.2	81.7	88.2	94.8	101.4	108.1	114.8	121.5	128.3	10
20	128.3	135.1	141.9	148.8	155.7	162.7	169.7	176.7	183.7	190.8	197.9	20
30	197.9	205.1	212.3	219.5	226.8	234.1	241.4	248.8	256.2	263.6	271.1	30
40	271.1	278.6	286.1	293.7	301.3	308.9	316.6	324.3	332.1	339.8	347.6	40
50	347.6	355.5	363.3	371.2	379.2	387.1	395.1	403.2	411.2	419.3	427.5	50
60	427.5	435.6	443.8	452.1	460.3	468.6	476.9	485.3	493.6	502.1	510.5	60
70	510.5	519.0	527.5	536.0	544.6	553.2	561.8	570.5	579.2	587.9	596.6	70
80	596.6	605.4	614.2	623.1	632.0	640.9	649.8	658.7	667.7	676.8	685.8	80
90	685.8	694.9	704.0	713.1	722.3	731.5	740.7	750.0	759.2	768.6	777.9	90
100	777.9	787.3	796.7	806.1	815.5	825.0	834.5	844.1	853.6	863.2	872.8	100
110	872.8	882.5	892.2	901.9	911.6	921.4	931.2	941.0	950.8	960.7	970.6	110
120	970.6	980.5	990.5	1000.4	1010.4	1020.5	1030.5	1040.6	1050.7	1060.9	1071.0	120
130	1071.0	1081.2	1091.4	1101.7	1112.0	1122.3	1132.6	1142.9	1153.3	1163.7	1174.1	130
140	1174.1	1184.6	1195.1	1205.6	1216.1	1226.7	1237.2	1247.8	1258.5	1269.1	1279.8	140
150	1279.8	1290.5	1301.3	1312.0	1322.8	1333.6	1344.4	1355.3	1366.2	1377.1	1388.0	150
160	1388.0	1399.0	1410.0	1421.0	1432.0	1443.1	1454.1	1465.3	1476.4	1487.5	1498.7	160
170	1498.7	1509.9	1521.1	1532.4	1543.7	1555.0	1566.3	1577.6	1589.0	1600.4	1611.8	170
180	1611.8	1623.3	1634.7	1646.2	1657.7	1669.3	1680.8	1692.4	1704.0	1715.6	1727.3	180
190	1727.3	1739.0	1750.7	1762.4	1774.1	1785.9	1797.7	1809.5	1821.3	1833.2	1845.1	190
200	1845.1	1857.0	1868.9	1880.9	1892.8	1904.8	1916.8	1928.9	1941.0	1953.0	1965.1	200
210	1965.1	1977.3	1989.4	2001.6	2013.8	2026.0	2038.3	2050.5	2062.8	2075.1	2087.4	210
220	2087.4	2099.8	2112.2	2124.6	2137.0	2149.4	2161.9	2174.4	2186.9	2199.4	2211.9	220
230	2211.9	2224.5	2237.1	2249.7	2262.3	2275.0	2287.7	2300.4	2313.1	2325.8	2338.6	230
240	2338.6	2351.4	2364.2	2377.0	2389.8	2402.7	2415.6	2428.5	2441.4	2454.4	2467.3	240
250	2467.3	2480.3	2493.3	2506.4	2519.4	2532.5	2545.6	2558.7	2571.9	2585.0	2598.2	250
260	2598.2	2611.4	2624.6	2637.8	2651.1	2664.4	2677.7	2691.0	2704.3	2717.7	2731.1	260
270	2731.1	2744.5	2757.9	2771.3	2784.8	2798.3	2811.8	2825.3	2838.9	2852.4	2866.0	270
280	2866.0	2879.6	2893.2	2906.9	2920.5	2934.2	2947.9	2961.6	2975.4	2989.1	3002.9	280
290	3002.9	3016.7	3030.5	3044.4	3058.2	3072.1	3086.0	3099.9	3113.8	3127.8	3141.8	290
300	3141.8	3155.8	3169.8	3183.8	3197.9	3211.9	3226.0	3240.1	3254.3	3268.4	3282.6	300
310	3282.6	3296.8	3311.0	3325.2	3339.4	3353.7	3368.0	3382.3	3396.6	3410.9	3425.3	310
320	3425.3	3439.7	3454.1	3468.5	3482.9	3497.4	3511.8	3526.3	3540.8	3555.4	3569.9	320
330	3569.9	3584.5	3599.1	3613.7	3628.3	3642.9	3657.6	3672.2	3686.9	3701.7	3716.4	330
340	3716.4	3731.1	3745.9	3760.7	3775.5	3790.3	3805.2	3820.0	3834.9	3849.8	3864.7	340
350	3864.7	3879.6	3894.6	3909.6	3924.6	3939.6	3954.6	3969.6	3984.7	3999.8	4014.9	350
360	4014.9	4030.0	4045.1	4060.3	4075.4	4090.6	4105.8	4121.0	4136.3	4151.5	4166.8	360
370	4166.8	4182.1	4197.4	4212.8	4228.1	4243.5	4258.9	4274.3	4289.7	4305.1	4320.6	370
380	4320.6	4336.1	4351.6	4367.1	4382.6	4398.1	4413.7	4429.3	4444.9	4460.5	4476.1	380
390	4476.1	4491.8	4507.4	4523.1	4538.8	4554.6	4570.3	4586.1	4601.8	4617.6	4633.4	390
400	4633.4	4649.3	4665.1	4681.0	4696.8	4712.7	4728.6	4744.6	4760.5	4776.5	4792.5	400
410	4792.5	4808.5	4824.5	4840.5	4856.6	4872.7	4888.7	4904.9	4921.0	4937.1	4953.3	410
420	4953.3	4969.4	4985.6	5001.8	5018.1	5034.3	5050.6	5066.9	5083.1	5099.5	5115.8	420
430	5115.8	5132.1	5148.5	5164.9	5181.3	5197.7	5214.1	5230.6	5247.0	5263.5	5280.0	430
440	5280.0	5296.5	5313.1	5329.6	5346.2	5362.8	5379.4	5396.0	5412.6	5429.3	5446.0	440
450	5446.0	5462.6	5479.4	5496.1	5512.8	5529.6	5546.3	5563.1	5579.9	5596.8	5613.6	450
460	5613.6	5630.5	5647.3	5664.2	5681.1	5698.0	5715.0	5731.9	5748.9	5765.9	5782.9	460
470	5782.9	5799.9	5817.0	5834.0	5851.1	5868.2	5885.3	5902.4	5919.6	5936.8	5953.9	470
480	5953.9	5971.1	5988.3	6005.6	6022.8	6040.1	6057.3	6074.6	6091.9	6109.3	6126.6	480
490	6126.6	6144.0	6161.3	6178.7	6196.1	6213.6	6231.0	6248.5	6265.9	6283.4	6301.0	490
500	6301.0	6318.5	6336.0	6353.6	6371.2	6388.7	6406.4	6424.0	6441.6	6459.3	6477.0	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 15 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Microvolts						
500	6301.0	6318.5	6336.0	6353.6	6371.2	6388.7	6406.4	6424.0	6441.6	6459.3	6477.0	500
510	6477.0	6494.7	6512.4	6530.1	6547.8	6565.6	6583.4	6601.1	6619.0	6636.8	6654.6	510
520	6654.6	6672.5	6690.4	6708.2	6726.2	6744.1	6762.0	6780.0	6797.9	6815.9	6833.9	520
530	6833.9	6852.0	6870.0	6888.1	6906.1	6924.2	6942.3	6960.4	6978.6	6996.7	7014.9	530
540	7014.9	7033.1	7051.3	7069.5	7087.7	7106.0	7124.3	7142.6	7160.9	7179.2	7197.5	540
550	7197.5	7215.9	7234.2	7252.6	7271.0	7289.4	7307.9	7326.3	7344.8	7363.3	7381.8	550
560	7381.8	7400.3	7418.8	7437.4	7455.9	7474.5	7493.1	7511.7	7530.3	7549.0	7567.6	560
570	7567.6	7586.3	7605.0	7623.7	7642.5	7661.2	7680.0	7698.7	7717.5	7736.3	7755.2	570
580	7755.2	7774.0	7792.9	7811.7	7830.6	7849.5	7868.5	7887.4	7906.4	7925.3	7944.3	580
590	7944.3	7963.3	7982.3	8001.4	8020.4	8039.5	8058.6	8077.7	8096.8	8115.9	8135.1	590
600	8135.1	8154.3	8173.4	8192.6	8211.9	8231.1	8250.3	8269.6	8288.9	8308.2	8327.5	600
610	8327.5	8346.8	8366.2	8385.5	8404.9	8424.3	8443.7	8463.2	8482.6	8502.1	8521.5	610
620	8521.5	8541.0	8560.5	8580.1	8599.6	8619.2	8638.7	8658.3	8677.9	8697.6	8717.2	620
630	8717.2	8736.9	8756.5	8776.2	8795.9	8815.7	8835.4	8855.1	8874.9	8894.7	8914.5	630
640	8914.5	8934.3	8954.1	8974.0	8993.9	9013.7	9033.6	9053.6	9073.5	9093.4	9113.4	640
650	9113.4	9133.4	9153.4	9173.4	9193.4	9213.5	9233.5	9253.6	9273.7	9293.8	9313.9	650
660	9313.9	9334.1	9354.2	9374.4	9394.6	9414.8	9435.0	9455.3	9475.5	9495.8	9516.1	660
670	9516.1	9536.4	9556.7	9577.0	9597.4	9617.8	9638.2	9658.6	9679.0	9699.4	9719.9	670
680	9719.9	9740.3	9760.8	9781.3	9801.8	9822.3	9842.9	9863.5	9884.0	9904.6	9925.2	680
690	9925.2	9945.9	9966.5	9987.2	10007.9	10028.5	10049.3	10070.0	10090.7	10111.5	10132.2	690
700	10132.2	10153.0	10173.8	10194.7	10215.5	10236.4	10257.2	10278.1	10299.0	10319.9	10340.9	700
710	10340.9	10361.8	10382.8	10403.8	10424.8	10445.8	10466.8	10487.9	10508.9	10530.0	10551.1	710
720	10551.1	10572.2	10593.3	10614.5	10635.6	10656.8	10678.0	10699.2	10720.4	10741.7	10762.9	720
730	10762.9	10784.2	10805.5	10826.8	10848.1	10869.5	10890.8	10912.2	10933.6	10955.0	10976.4	730
740	10976.4	10997.8	11019.3	11040.8	11062.2	11083.7	11105.3	11126.8	11148.3	11169.9	11191.5	740
750	11191.5	11213.1	11234.7	11256.3	11277.9	11299.6	11321.3	11343.0	11364.7	11386.4	11408.1	750
760	11408.1	11429.9	11451.7	11473.5	11495.3	11517.1	11538.9	11560.8	11582.6	11604.5	11626.4	760
770	11626.4	11648.3	11670.3	11692.2	11714.2	11736.2	11758.2	11780.2	11802.2	11824.3	11846.3	770
780	11846.3	11868.4	11890.5	11912.6	11934.7	11956.9	11979.0	12001.2	12023.4	12045.6	12067.8	780
790	12067.8	12090.0	12112.3	12134.6	12156.8	12179.1	12201.5	12223.8	12246.1	12268.5	12290.9	790
800	12290.9	12313.3	12335.7	12358.1	12380.6	12403.0	12425.5	12448.0	12470.5	12493.0	12515.6	800
810	12515.6	12538.1	12560.7	12583.3	12605.9	12628.5	12651.2	12673.8	12696.5	12719.2	12741.9	810
820	12741.9	12764.6	12787.3	12810.1	12832.8	12855.6	12878.4	12901.2	12924.0	12946.9	12969.7	820
830	12969.7	12992.6	13015.5	13038.4	13061.3	13084.3	13107.2	13130.2	13153.2	13176.2	13199.2	830
840	13199.2	13222.2	13245.3	13268.4	13291.4	13314.5	13337.7	13360.8	13383.9	13407.1	13430.3	840
850	13430.3	13453.5	13476.7	13499.9	13523.1	13546.4	13569.7	13593.0	13616.3	13639.6	13662.9	850
860	13662.9	13686.3	13709.6	13733.0	13756.4	13779.8	13803.3	13826.7	13850.2	13873.7	13897.1	860
870	13897.1	13920.7	13944.2	13967.7	13991.3	14014.9	14038.4	14062.0	14085.7	14109.3	14133.0	870
880	14133.0	14156.6	14180.3	14204.0	14227.7	14251.5	14275.2	14299.0	14322.7	14346.5	14370.3	880
890	14370.3	14394.2	14418.0	14441.9	14465.7	14489.6	14513.5	14537.5	14561.4	14585.3	14609.3	890
900	14609.3	14633.3	14657.3	14681.3	14705.3	14729.4	14753.4	14777.5	14801.6	14825.7	14849.9	900
910	14849.9	14874.0	14898.2	14922.3	14946.5	14970.7	14994.9	15019.2	15043.4	15067.7	15092.0	910
920	15092.0	15116.3	15140.6	15164.9	15189.3	15213.6	15238.0	15262.4	15286.8	15311.2	15335.7	920
930	15335.7	15360.1	15384.6	15409.1	15433.6	15458.1	15482.6	15507.2	15531.7	15556.3	15580.9	930
940	15580.9	15605.5	15630.1	15654.8	15679.4	15704.1	15728.8	15753.5	15778.2	15803.0	15827.7	940
950	15827.7	15852.5	15877.3	15902.1	15926.9	15951.7	15976.6	16001.4	16026.3	16051.2	16076.1	950
960	16076.1	16101.0	16126.0	16150.9	16175.9	16200.9	16225.9	16250.9	16276.0	16301.0	16326.1	960
970	16326.1	16351.2	16376.2	16401.4	16426.5	16451.6	16476.8	16502.0	16527.2	16552.4	16577.6	970
980	16577.6	16602.8	16628.1	16653.3	16678.6	16703.9	16729.2	16754.6	16779.9	16805.3	16830.7	980
990	16830.7	16856.1	16881.5	16906.9	16932.3	16957.8	16983.3	17008.8	17034.3	17059.8	17085.3	990
1000	17085.3											1000
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 15 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Gold Platinum thermocouples (coefficients in μV).

0 °C to 1000 °C

$c_0 = 0.000\,000\,00$
$c_1 = 6.036\,198\,61$
$c_2 = 1.936\,729\,74 \times 10^{-02}$
$c_3 = -2.229\,986\,14 \times 10^{-05}$
$c_4 = 3.287\,118\,59 \times 10^{-08}$
$c_5 = -4.242\,061\,93 \times 10^{-11}$
$c_6 = 4.569\,270\,38 \times 10^{-14}$
$c_7 = -3.394\,302\,59 \times 10^{-17}$
$c_8 = 1.429\,815\,90 \times 10^{-20}$
$c_9 = -2.516\,727\,87 \times 10^{-24}$

TABLE 16 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
30			0.0	3.4	6.7	10.1	13.5	16.9	20.3	23.8	27.2	30
40	27.2	30.7	34.1	37.6	41.1	44.6	48.1	51.6	55.2	58.7	62.3	40
50	62.3	65.8	69.4	73.0	76.6	80.2	83.9	87.5	91.2	94.8	98.5	50
60	98.5	102.2	105.9	109.6	113.3	117.0	120.8	124.5	128.3	132.1	135.9	60
70	135.9	139.7	143.5	147.3	151.1	155.0	158.8	162.7	166.5	170.4	174.3	70
80	174.3	178.2	182.2	186.1	190.0	194.0	197.9	201.9	205.9	209.9	213.9	80
90	213.9	217.9	221.9	226.0	230.0	234.1	238.2	242.2	246.3	250.4	254.5	90
100	254.5	258.7	262.8	266.9	271.1	275.3	279.4	283.6	287.8	292.0	296.2	100
110	296.2	300.5	304.7	308.9	313.2	317.5	321.7	326.0	330.3	334.6	339.0	110
120	339.0	343.3	347.6	352.0	356.3	360.7	365.1	369.5	373.9	378.3	382.7	120
130	382.7	387.1	391.6	396.0	400.5	405.0	409.5	413.9	418.4	423.0	427.5	130
140	427.5	432.0	436.5	441.1	445.7	450.2	454.8	459.4	464.0	468.6	473.2	140
150	473.2	477.8	482.5	487.1	491.8	496.5	501.1	505.8	510.5	515.2	519.9	150
160	519.9	524.7	529.4	534.1	538.9	543.6	548.4	553.2	558.0	562.8	567.6	160
170	567.6	572.4	577.2	582.1	586.9	591.8	596.6	601.5	606.4	611.3	616.2	170
180	616.2	621.1	626.0	631.0	635.9	640.9	645.8	650.8	655.8	660.7	665.7	180
190	665.7	670.7	675.8	680.8	685.8	690.8	695.9	701.0	706.0	711.1	716.2	190
200	716.2	721.3	726.4	731.5	736.6	741.7	746.9	752.0	757.2	762.3	767.5	200
210	767.5	772.7	777.9	783.1	788.3	793.5	798.8	804.0	809.2	814.5	819.8	210
220	819.8	825.0	830.3	835.6	840.9	846.2	851.5	856.8	862.2	867.5	872.8	220
230	872.8	878.2	883.6	888.9	894.3	899.7	905.1	910.5	915.9	921.4	926.8	230
240	926.8	932.2	937.7	943.2	948.6	954.1	959.6	965.1	970.6	976.1	981.6	240
250	981.6	987.1	992.7	998.2	1003.8	1009.3	1014.9	1020.5	1026.1	1031.7	1037.3	250
260	1037.3	1042.9	1048.5	1054.1	1059.7	1065.4	1071.0	1076.7	1082.4	1088.0	1093.7	260
270	1093.7	1099.4	1105.1	1110.8	1116.5	1122.3	1128.0	1133.7	1139.5	1145.2	1151.0	270
280	1151.0	1156.8	1162.5	1168.3	1174.1	1179.9	1185.7	1191.6	1197.4	1203.2	1209.1	280
290	1209.1	1214.9	1220.8	1226.7	1232.5	1238.4	1244.3	1250.2	1256.1	1262.0	1267.9	290
300	1267.9	1273.9	1279.8	1285.8	1291.7	1297.7	1303.6	1309.6	1315.6	1321.6	1327.6	300
310	1327.6	1333.6	1339.6	1345.7	1351.7	1357.7	1363.8	1369.8	1375.9	1382.0	1388.0	310
320	1388.0	1394.1	1400.2	1406.3	1412.4	1418.5	1424.7	1430.8	1436.9	1443.1	1449.2	320
330	1449.2	1455.4	1461.5	1467.7	1473.9	1480.1	1486.3	1492.5	1498.7	1504.9	1511.2	330
340	1511.2	1517.4	1523.6	1529.9	1536.1	1542.4	1548.7	1555.0	1561.3	1567.5	1573.8	340
350	1573.8	1580.2	1586.5	1592.8	1599.1	1605.5	1611.8	1618.2	1624.5	1630.9	1637.3	350
360	1637.3	1643.7	1650.0	1656.4	1662.8	1669.3	1675.7	1682.1	1688.5	1695.0	1701.4	360
370	1701.4	1707.9	1714.3	1720.8	1727.3	1733.8	1740.3	1746.8	1753.3	1759.8	1766.3	370
380	1766.3	1772.8	1779.4	1785.9	1792.4	1799.0	1805.6	1812.1	1818.7	1825.3	1831.9	380
390	1831.9	1838.5	1845.1	1851.7	1858.3	1864.9	1871.6	1878.2	1884.8	1891.5	1898.2	390
400	1898.2	1904.8	1911.5	1918.2	1924.9	1931.6	1938.3	1945.0	1951.7	1958.4	1965.1	400
410	1965.1	1971.9	1978.6	1985.4	1992.1	1998.9	2005.7	2012.4	2019.2	2026.0	2032.8	410
420	2032.8	2039.6	2046.4	2053.2	2060.1	2066.9	2073.7	2080.6	2087.4	2094.3	2101.2	420
430	2101.2	2108.0	2114.9	2121.8	2128.7	2135.6	2142.5	2149.4	2156.3	2163.3	2170.2	430
440	2170.2	2177.1	2184.1	2191.0	2198.0	2205.0	2211.9	2218.9	2225.9	2232.9	2239.9	440
450	2239.9	2246.9	2253.9	2260.9	2268.0	2275.0	2282.0	2289.1	2296.1	2303.2	2310.2	450
460	2310.2	2317.3	2324.4	2331.5	2338.6	2345.7	2352.8	2359.9	2367.0	2374.1	2381.3	460
470	2381.3	2388.4	2395.5	2402.7	2409.9	2417.0	2424.2	2431.4	2438.5	2445.7	2452.9	470
480	2452.9	2460.1	2467.3	2474.6	2481.8	2489.0	2496.2	2503.5	2510.7	2518.0	2525.2	480
490	2525.2	2532.5	2539.8	2547.1	2554.3	2561.6	2568.9	2576.2	2583.5	2590.9	2598.2	490
500	2598.2	2605.5	2612.8	2620.2	2627.5	2634.9	2642.3	2649.6	2657.0	2664.4	2671.8	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 16 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Thermoelectric Voltage in Microvolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F
500	2598.2	2605.5	2612.8	2620.2	2627.5	2634.9	2642.3	2649.6	2657.0	2664.4	2671.8	500
510	2671.8	2679.2	2686.6	2694.0	2701.4	2708.8	2716.2	2723.6	2731.1	2738.5	2746.0	510
520	2746.0	2753.4	2760.9	2768.4	2775.8	2783.3	2790.8	2798.3	2805.8	2813.3	2820.8	520
530	2820.8	2828.3	2835.8	2843.4	2850.9	2858.4	2866.0	2873.5	2881.1	2888.7	2896.2	530
540	2896.2	2903.8	2911.4	2919.0	2926.6	2934.2	2941.8	2949.4	2957.0	2964.7	2972.3	540
550	2972.3	2979.9	2987.6	2995.2	3002.9	3010.6	3018.2	3025.9	3033.6	3041.3	3049.0	550
560	3049.0	3056.7	3064.4	3072.1	3079.8	3087.5	3095.3	3103.0	3110.7	3118.5	3126.2	560
570	3126.2	3134.0	3141.8	3149.5	3157.3	3165.1	3172.9	3180.7	3188.5	3196.3	3204.1	570
580	3204.1	3211.9	3219.8	3227.6	3235.4	3243.3	3251.1	3259.0	3266.8	3274.7	3282.6	580
590	3282.6	3290.5	3298.3	3306.2	3314.1	3322.0	3329.9	3337.9	3345.8	3353.7	3361.6	590
600	3361.6	3369.6	3377.5	3385.5	3393.4	3401.4	3409.3	3417.3	3425.3	3433.3	3441.3	600
610	3441.3	3449.3	3457.3	3465.3	3473.3	3481.3	3489.3	3497.4	3505.4	3513.4	3521.5	610
620	3521.5	3529.5	3537.6	3545.7	3553.7	3561.8	3569.9	3578.0	3586.1	3594.2	3602.3	620
630	3602.3	3610.4	3618.5	3626.6	3634.8	3642.9	3651.1	3659.2	3667.3	3675.5	3683.7	630
640	3683.7	3691.8	3700.0	3708.2	3716.4	3724.6	3732.8	3741.0	3749.2	3757.4	3765.6	640
650	3765.6	3773.8	3782.1	3790.3	3798.6	3806.8	3815.1	3823.3	3831.6	3839.9	3848.1	650
660	3848.1	3856.4	3864.7	3873.0	3881.3	3889.6	3897.9	3906.2	3914.6	3922.9	3931.2	660
670	3931.2	3939.6	3947.9	3956.3	3964.6	3973.0	3981.3	3989.7	3998.1	4006.5	4014.9	670
680	4014.9	4023.3	4031.7	4040.1	4048.5	4056.9	4065.3	4073.7	4082.2	4090.6	4099.1	680
690	4099.1	4107.5	4116.0	4124.4	4132.9	4141.4	4149.9	4158.3	4166.8	4175.3	4183.8	690
700	4183.8	4192.3	4200.8	4209.4	4217.9	4226.4	4234.9	4243.5	4252.0	4260.6	4269.1	700
710	4269.1	4277.7	4286.3	4294.8	4303.4	4312.0	4320.6	4329.2	4337.8	4346.4	4355.0	710
720	4355.0	4363.6	4372.2	4380.9	4389.5	4398.1	4406.8	4415.4	4424.1	4432.7	4441.4	720
730	4441.4	4450.1	4458.8	4467.4	4476.1	4484.8	4493.5	4502.2	4510.9	4519.6	4528.4	730
740	4528.4	4537.1	4545.8	4554.6	4563.3	4572.0	4580.8	4589.6	4598.3	4607.1	4615.9	740
750	4615.9	4624.6	4633.4	4642.2	4651.0	4659.8	4668.6	4677.4	4686.3	4695.1	4703.9	750
760	4703.9	4712.7	4721.6	4730.4	4739.3	4748.1	4757.0	4765.9	4774.7	4783.6	4792.5	760
770	4792.5	4801.4	4810.3	4819.2	4828.1	4837.0	4845.9	4854.8	4863.7	4872.7	4881.6	770
780	4881.6	4890.5	4899.5	4908.4	4917.4	4926.4	4935.3	4944.3	4953.3	4962.3	4971.2	780
790	4971.2	4980.2	4989.2	4998.2	5007.3	5016.3	5025.3	5034.3	5043.3	5052.4	5061.4	790
800	5061.4	5070.5	5079.5	5088.6	5097.6	5106.7	5115.8	5124.9	5134.0	5143.0	5152.1	800
810	5152.1	5161.2	5170.3	5179.5	5188.6	5197.7	5206.8	5216.0	5225.1	5234.2	5243.4	810
820	5243.4	5252.5	5261.7	5270.9	5280.0	5289.2	5298.4	5307.6	5316.8	5325.9	5335.1	820
830	5335.1	5344.4	5353.6	5362.8	5372.0	5381.2	5390.5	5399.7	5408.9	5418.2	5427.4	830
840	5427.4	5436.7	5446.0	5455.2	5464.5	5473.8	5483.1	5492.4	5501.7	5511.0	5520.3	840
850	5520.3	5529.6	5538.9	5548.2	5557.5	5566.9	5576.2	5585.5	5594.9	5604.2	5613.6	850
860	5613.6	5623.0	5632.3	5641.7	5651.1	5660.5	5669.9	5679.2	5688.6	5698.0	5707.5	860
870	5707.5	5716.9	5726.3	5735.7	5745.1	5754.6	5764.0	5773.5	5782.9	5792.4	5801.8	870
880	5801.8	5811.3	5820.8	5830.3	5839.7	5849.2	5858.7	5868.2	5877.7	5887.2	5896.7	880
890	5896.7	5906.3	5915.8	5925.3	5934.8	5944.4	5953.9	5963.5	5973.0	5982.6	5992.2	890
900	5992.2	6001.7	6011.3	6020.9	6030.5	6040.1	6049.7	6059.3	6068.9	6078.5	6088.1	900
910	6088.1	6097.7	6107.3	6117.0	6126.6	6136.2	6145.9	6155.5	6165.2	6174.9	6184.5	910
920	6184.5	6194.2	6203.9	6213.6	6223.3	6233.0	6242.7	6252.4	6262.1	6271.8	6281.5	920
930	6281.5	6291.2	6301.0	6310.7	6320.4	6330.2	6339.9	6349.7	6359.4	6369.2	6379.0	930
940	6379.0	6388.7	6398.5	6408.3	6418.1	6427.9	6437.7	6447.5	6457.3	6467.1	6477.0	940
950	6477.0	6486.8	6496.6	6506.5	6516.3	6526.1	6536.0	6545.9	6555.7	6565.6	6575.5	950
960	6575.5	6585.3	6595.2	6605.1	6615.0	6624.9	6634.8	6644.7	6654.6	6664.5	6674.5	960
970	6674.5	6684.4	6694.3	6704.3	6714.2	6724.2	6734.1	6744.1	6754.0	6764.0	6774.0	970
980	6774.0	6784.0	6793.9	6803.9	6813.9	6823.9	6833.9	6843.9	6854.0	6864.0	6874.0	980
990	6874.0	6884.0	6894.1	6904.1	6914.2	6924.2	6934.3	6944.3	6954.4	6964.5	6974.5	990
1000	6974.5	6984.6	6994.7	7004.8	7014.9	7025.0	7035.1	7045.2	7055.3	7065.5	7075.6	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 16 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Thermoelectric Voltage in Microvolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F
1000	6974.5	6984.6	6994.7	7004.8	7014.9	7025.0	7035.1	7045.2	7055.3	7065.5	7075.6	**1000**
1010	7075.6	7085.7	7095.9	7106.0	7116.1	7126.3	7136.5	7146.6	7156.8	7167.0	7177.1	**1010**
1020	7177.1	7187.3	7197.5	7207.7	7217.9	7228.1	7238.3	7248.5	7258.7	7269.0	7279.2	**1020**
1030	7279.2	7289.4	7299.7	7309.9	7320.2	7330.4	7340.7	7350.9	7361.2	7371.5	7381.8	**1030**
1040	7381.8	7392.0	7402.3	7412.6	7422.9	7433.2	7443.5	7453.9	7464.2	7474.5	7484.8	**1040**
1050	7484.8	7495.2	7505.5	7515.8	7526.2	7536.5	7546.9	7557.3	7567.6	7578.0	7588.4	**1050**
1060	7588.4	7598.8	7609.2	7619.6	7630.0	7640.4	7650.8	7661.2	7671.6	7682.0	7692.5	**1060**
1070	7692.5	7702.9	7713.3	7723.8	7734.2	7744.7	7755.2	7765.6	7776.1	7786.6	7797.1	**1070**
1080	7797.1	7807.5	7818.0	7828.5	7839.0	7849.5	7860.0	7870.6	7881.1	7891.6	7902.1	**1080**
1090	7902.1	7912.7	7923.2	7933.8	7944.3	7954.9	7965.4	7976.0	7986.6	7997.1	8007.7	**1090**
1100	8007.7	8018.3	8028.9	8039.5	8050.1	8060.7	8071.3	8081.9	8092.6	8103.2	8113.8	**1100**
1110	8113.8	8124.5	8135.1	8145.7	8156.4	8167.1	8177.7	8188.4	8199.1	8209.7	8220.4	**1110**
1120	8220.4	8231.1	8241.8	8252.5	8263.2	8273.9	8284.6	8295.3	8306.0	8316.8	8327.5	**1120**
1130	8327.5	8338.2	8349.0	8359.7	8370.5	8381.2	8392.0	8402.8	8413.5	8424.3	8435.1	**1130**
1140	8435.1	8445.9	8456.7	8467.5	8478.3	8489.1	8499.9	8510.7	8521.5	8532.4	8543.2	**1140**
1150	8543.2	8554.0	8564.9	8575.7	8586.6	8597.4	8608.3	8619.2	8630.0	8640.9	8651.8	**1150**
1160	8651.8	8662.7	8673.6	8684.5	8695.4	8706.3	8717.2	8728.1	8739.1	8750.0	8760.9	**1160**
1170	8760.9	8771.8	8782.8	8793.7	8804.7	8815.7	8826.6	8837.6	8848.6	8859.5	8870.5	**1170**
1180	8870.5	8881.5	8892.5	8903.5	8914.5	8925.5	8936.5	8947.5	8958.6	8969.6	8980.6	**1180**
1190	8980.6	8991.7	9002.7	9013.7	9024.8	9035.9	9046.9	9058.0	9069.1	9080.1	9091.2	**1190**
1200	9091.2	9102.3	9113.4	9124.5	9135.6	9146.7	9157.8	9168.9	9180.1	9191.2	9202.3	**1200**
1210	9202.3	9213.5	9224.6	9235.8	9246.9	9258.1	9269.2	9280.4	9291.6	9302.8	9313.9	**1210**
1220	9313.9	9325.1	9336.3	9347.5	9358.7	9369.9	9381.1	9392.4	9403.6	9414.8	9426.0	**1220**
1230	9426.0	9437.3	9448.5	9459.8	9471.0	9482.3	9493.5	9504.8	9516.1	9527.4	9538.6	**1230**
1240	9538.6	9549.9	9561.2	9572.5	9583.8	9595.1	9606.5	9617.8	9629.1	9640.4	9651.8	**1240**
1250	9651.8	9663.1	9674.4	9685.8	9697.1	9708.5	9719.9	9731.2	9742.6	9754.0	9765.4	**1250**
1260	9765.4	9776.7	9788.1	9799.5	9810.9	9822.3	9833.8	9845.2	9856.6	9868.0	9879.5	**1260**
1270	9879.5	9890.9	9902.3	9913.8	9925.2	9936.7	9948.2	9959.6	9971.1	9982.6	9994.1	**1270**
1280	9994.1	10005.6	10017.0	10028.5	10040.0	10051.6	10063.1	10074.6	10086.1	10097.6	10109.2	**1280**
1290	10109.2	10120.7	10132.2	10143.8	10155.3	10166.9	10178.5	10190.0	10201.6	10213.2	10224.8	**1290**
1300	10224.8	10236.4	10247.9	10259.5	10271.1	10282.8	10294.4	10306.0	10317.6	10329.2	10340.9	**1300**
1310	10340.9	10352.5	10364.1	10375.8	10387.4	10399.1	10410.8	10422.4	10434.1	10445.8	10457.5	**1310**
1320	10457.5	10469.2	10480.8	10492.5	10504.2	10516.0	10527.7	10539.4	10551.1	10562.8	10574.6	**1320**
1330	10574.6	10586.3	10598.0	10609.8	10621.5	10633.3	10645.1	10656.8	10668.6	10680.4	10692.2	**1330**
1340	10692.2	10703.9	10715.7	10727.5	10739.3	10751.1	10762.9	10774.8	10786.6	10798.4	10810.2	**1340**
1350	10810.2	10822.1	10833.9	10845.8	10857.6	10869.5	10881.3	10893.2	10905.1	10916.9	10928.8	**1350**
1360	10928.8	10940.7	10952.6	10964.5	10976.4	10988.3	11000.2	11012.1	11024.1	11036.0	11047.9	**1360**
1370	11047.9	11059.9	11071.8	11083.7	11095.7	11107.6	11119.6	11131.6	11143.5	11155.5	11167.5	**1370**
1380	11167.5	11179.5	11191.5	11203.5	11215.5	11227.5	11239.5	11251.5	11263.5	11275.5	11287.6	**1380**
1390	11287.6	11299.6	11311.6	11323.7	11335.7	11347.8	11359.9	11371.9	11384.0	11396.1	11408.1	**1390**
1400	11408.1	11420.2	11432.3	11444.4	11456.5	11468.6	11480.7	11492.8	11505.0	11517.1	11529.2	**1400**
1410	11529.2	11541.4	11553.5	11565.6	11577.8	11589.9	11602.1	11614.3	11626.4	11638.6	11650.8	**1410**
1420	11650.8	11663.0	11675.2	11687.3	11699.5	11711.7	11724.0	11736.2	11748.4	11760.6	11772.8	**1420**
1430	11772.8	11785.1	11797.3	11809.6	11821.8	11834.1	11846.3	11858.6	11870.8	11883.1	11895.4	**1430**
1440	11895.4	11907.7	11920.0	11932.3	11944.6	11956.9	11969.2	11981.5	11993.8	12006.1	12018.4	**1440**
1450	12018.4	12030.8	12043.1	12055.5	12067.8	12080.2	12092.5	12104.9	12117.2	12129.6	12142.0	**1450**
1460	12142.0	12154.4	12166.8	12179.1	12191.5	12203.9	12216.4	12228.8	12241.2	12253.6	12266.0	**1460**
1470	12266.0	12278.5	12290.9	12303.3	12315.8	12328.2	12340.7	12353.1	12365.6	12378.1	12390.6	**1470**
1480	12390.6	12403.0	12415.5	12428.0	12440.5	12453.0	12465.5	12478.0	12490.5	12503.1	12515.6	**1480**
1490	12515.6	12528.1	12540.6	12553.2	12565.7	12578.3	12590.8	12603.4	12616.0	12628.5	12641.1	**1490**
1500	12641.1	12653.7	12666.3	12678.8	12691.4	12704.0	12716.6	12729.3	12741.9	12754.5	12767.1	**1500**
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 16 Gold versus Platinum thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
1500	12641.1	12653.7	12666.3	12678.8	12691.4	12704.0	12716.6	12729.3	12741.9	12754.5	12767.1	**1500**
1510	12767.1	12779.7	12792.4	12805.0	12817.6	12830.3	12842.9	12855.6	12868.3	12880.9	12893.6	**1510**
1520	12893.6	12906.3	12919.0	12931.7	12944.3	12957.0	12969.7	12982.4	12995.2	13007.9	13020.6	**1520**
1530	13020.6	13033.3	13046.1	13058.8	13071.5	13084.3	13097.0	13109.8	13122.5	13135.3	13148.1	**1530**
1540	13148.1	13160.9	13173.6	13186.4	13199.2	13212.0	13224.8	13237.6	13250.4	13263.2	13276.1	**1540**
1550	13276.1	13288.9	13301.7	13314.5	13327.4	13340.2	13353.1	13365.9	13378.8	13391.6	13404.5	**1550**
1560	13404.5	13417.4	13430.3	13443.2	13456.0	13468.9	13481.8	13494.7	13507.6	13520.6	13533.5	**1560**
1570	13533.5	13546.4	13559.3	13572.3	13585.2	13598.1	13611.1	13624.0	13637.0	13649.9	13662.9	**1570**
1580	13662.9	13675.9	13688.9	13701.8	13714.8	13727.8	13740.8	13753.8	13766.8	13779.8	13792.8	**1580**
1590	13792.8	13805.9	13818.9	13831.9	13845.0	13858.0	13871.0	13884.1	13897.1	13910.2	13923.3	**1590**
1600	13923.3	13936.3	13949.4	13962.5	13975.6	13988.7	14001.8	14014.9	14028.0	14041.1	14054.2	**1600**
1610	14054.2	14067.3	14080.4	14093.5	14106.7	14119.8	14133.0	14146.1	14159.3	14172.4	14185.6	**1610**
1620	14185.6	14198.7	14211.9	14225.1	14238.3	14251.5	14264.6	14277.8	14291.0	14304.2	14317.5	**1620**
1630	14317.5	14330.7	14343.9	14357.1	14370.3	14383.6	14396.8	14410.1	14423.3	14436.6	14449.8	**1630**
1640	14449.8	14463.1	14476.4	14489.6	14502.9	14516.2	14529.5	14542.8	14556.1	14569.4	14582.7	**1640**
1650	14582.7	14596.0	14609.3	14622.6	14636.0	14649.3	14662.6	14676.0	14689.3	14702.7	14716.0	**1650**
1660	14716.0	14729.4	14742.8	14756.1	14769.5	14782.9	14796.3	14809.7	14823.1	14836.5	14849.9	**1660**
1670	14849.9	14863.3	14876.7	14890.1	14903.5	14917.0	14930.4	14943.8	14957.3	14970.7	14984.2	**1670**
1680	14984.2	14997.6	15011.1	15024.6	15038.0	15051.5	15065.0	15078.5	15092.0	15105.5	15119.0	**1680**
1690	15119.0	15132.5	15146.0	15159.5	15173.0	15186.5	15200.1	15213.6	15227.2	15240.7	15254.3	**1690**
1700	15254.3	15267.8	15281.4	15294.9	15308.5	15322.1	15335.7	15349.2	15362.8	15376.4	15390.0	**1700**
1710	15390.0	15403.6	15417.2	15430.8	15444.5	15458.1	15471.7	15485.3	15499.0	15512.6	15526.3	**1710**
1720	15526.3	15539.9	15553.6	15567.2	15580.9	15594.6	15608.3	15621.9	15635.6	15649.3	15663.0	**1720**
1730	15663.0	15676.7	15690.4	15704.1	15717.8	15731.6	15745.3	15759.0	15772.7	15786.5	15800.2	**1730**
1740	15800.2	15814.0	15827.7	15841.5	15855.3	15869.0	15882.8	15896.6	15910.4	15924.1	15937.9	**1740**
1750	15937.9	15951.7	15965.5	15979.3	15993.1	16007.0	16020.8	16034.6	16048.4	16062.3	16076.1	**1750**
1760	16076.1	16090.0	16103.8	16117.7	16131.5	16145.4	16159.3	16173.1	16187.0	16200.9	16214.8	**1760**
1770	16214.8	16228.7	16242.6	16256.5	16270.4	16284.3	16298.2	16312.1	16326.1	16340.0	16353.9	**1770**
1780	16353.9	16367.9	16381.8	16395.8	16409.7	16423.7	16437.7	16451.6	16465.6	16479.6	16493.6	**1780**
1790	16493.6	16507.6	16521.6	16535.6	16549.6	16563.6	16577.6	16591.6	16605.6	16619.7	16633.7	**1790**
1800	16633.7	16647.7	16661.8	16675.8	16689.9	16703.9	16718.0	16732.1	16746.1	16760.2	16774.3	**1800**
1810	16774.3	16788.4	16802.5	16816.6	16830.7	16844.8	16858.9	16873.0	16887.1	16901.2	16915.4	**1810**
1820	16915.4	16929.5	16943.6	16957.8	16971.9	16986.1	17000.3	17014.4	17028.6	17042.8	17056.9	**1820**
1830	17056.9	17071.1	17085.3									**1830**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Gold versus Platinum thermocouples (thermoelectric voltages in μV).

32 °F to 1832 °F

$c_0 = -1.010\,605\,197 \times 10^{02}$
$c_1 = 2.958\,710\,873$
$c_2 = 6.364\,632\,734 \times 10^{-03}$
$c_3 = -4.248\,404\,113 \times 10^{-06}$
$c_4 = 3.511\,783\,685 \times 10^{-09}$
$c_5 = -2.515\,089\,128 \times 10^{-12}$
$c_6 = 1.471\,366\,368 \times 10^{-15}$
$c_7 = -5.881\,084\,371 \times 10^{-19}$
$c_8 = 1.334\,018\,879 \times 10^{-22}$
$c_9 = -1.268\,772\,370 \times 10^{-26}$

TABLE 17 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Microvolts						
0	0.0	5.3	10.6	15.9	21.3	26.6	31.9	37.3	42.7	48.0	53.4	0
10	53.4	58.8	64.2	69.6	75.0	80.5	85.9	91.3	96.8	102.2	107.7	10
20	107.7	113.2	118.7	124.2	129.7	135.2	140.7	146.2	151.7	157.3	162.8	20
30	162.8	168.4	173.9	179.5	185.1	190.7	196.3	201.9	207.5	213.1	218.7	30
40	218.7	224.3	230.0	235.6	241.3	246.9	252.6	258.3	264.0	269.7	275.4	40
50	275.4	281.1	286.8	292.5	298.2	303.9	309.7	315.4	321.2	326.9	332.7	50
60	332.7	338.5	344.3	350.1	355.9	361.7	367.5	373.3	379.1	384.9	390.8	60
70	390.8	396.6	402.5	408.3	414.2	420.1	425.9	431.8	437.7	443.6	449.5	70
80	449.5	455.4	461.3	467.3	473.2	479.1	485.1	491.0	497.0	502.9	508.9	80
90	508.9	514.9	520.9	526.9	532.9	538.9	544.9	550.9	556.9	562.9	569.0	90
100	569.0	575.0	581.1	587.1	593.2	599.3	605.3	611.4	617.5	623.6	629.7	100
110	629.7	635.8	641.9	648.1	654.2	660.3	666.5	672.6	678.8	684.9	691.1	110
120	691.1	697.3	703.5	709.7	715.9	722.1	728.3	734.5	740.7	746.9	753.2	120
130	753.2	759.4	765.7	771.9	778.2	784.5	790.7	797.0	803.3	809.6	815.9	130
140	815.9	822.2	828.6	834.9	841.2	847.6	853.9	860.3	866.6	873.0	879.4	140
150	879.4	885.8	892.2	898.6	905.0	911.4	917.8	924.2	930.7	937.1	943.6	150
160	943.6	950.0	956.5	962.9	969.4	975.9	982.4	988.9	995.4	1001.9	1008.5	160
170	1008.5	1015.0	1021.5	1028.1	1034.6	1041.2	1047.8	1054.4	1060.9	1067.5	1074.1	170
180	1074.1	1080.7	1087.4	1094.0	1100.6	1107.3	1113.9	1120.6	1127.2	1133.9	1140.6	180
190	1140.6	1147.3	1154.0	1160.7	1167.4	1174.1	1180.9	1187.6	1194.4	1201.1	1207.9	190
200	1207.9	1214.7	1221.4	1228.2	1235.0	1241.8	1248.7	1255.5	1262.3	1269.2	1276.0	200
210	1276.0	1282.9	1289.7	1296.6	1303.5	1310.4	1317.3	1324.2	1331.2	1338.1	1345.0	210
220	1345.0	1352.0	1358.9	1365.9	1372.9	1379.9	1386.9	1393.9	1400.9	1407.9	1415.0	220
230	1415.0	1422.0	1429.1	1436.1	1443.2	1450.3	1457.4	1464.5	1471.6	1478.7	1485.9	230
240	1485.9	1493.0	1500.2	1507.3	1514.5	1521.7	1528.9	1536.1	1543.3	1550.5	1557.7	240
250	1557.7	1565.0	1572.2	1579.5	1586.8	1594.1	1601.4	1608.7	1616.0	1623.3	1630.7	250
260	1630.7	1638.0	1645.4	1652.7	1660.1	1667.5	1674.9	1682.3	1689.7	1697.2	1704.6	260
270	1704.6	1712.1	1719.6	1727.0	1734.5	1742.0	1749.5	1757.1	1764.6	1772.2	1779.7	270
280	1779.7	1787.3	1794.9	1802.5	1810.1	1817.7	1825.3	1833.0	1840.6	1848.3	1856.0	280
290	1856.0	1863.6	1871.3	1879.1	1886.8	1894.5	1902.3	1910.0	1917.8	1925.6	1933.4	290
300	1933.4	1941.2	1949.0	1956.8	1964.7	1972.5	1980.4	1988.3	1996.2	2004.1	2012.0	300
310	2012.0	2019.9	2027.9	2035.9	2043.8	2051.8	2059.8	2067.8	2075.8	2083.9	2091.9	310
320	2091.9	2100.0	2108.1	2116.2	2124.3	2132.4	2140.5	2148.6	2156.8	2165.0	2173.1	320
330	2173.1	2181.3	2189.5	2197.8	2206.0	2214.2	2222.5	2230.8	2239.1	2247.4	2255.7	330
340	2255.7	2264.0	2272.4	2280.7	2289.1	2297.5	2305.9	2314.3	2322.7	2331.2	2339.6	340
350	2339.6	2348.1	2356.6	2365.1	2373.6	2382.1	2390.7	2399.2	2407.8	2416.4	2425.0	350
360	2425.0	2433.6	2442.2	2450.9	2459.5	2468.2	2476.9	2485.6	2494.3	2503.1	2511.8	360
370	2511.8	2520.6	2529.3	2538.1	2546.9	2555.8	2564.6	2573.5	2582.3	2591.2	2600.1	370
380	2600.1	2609.0	2617.9	2626.9	2635.8	2644.8	2653.8	2662.8	2671.8	2680.9	2689.9	380
390	2689.9	2699.0	2708.1	2717.2	2726.3	2735.4	2744.6	2753.7	2762.9	2772.1	2781.3	390
400	2781.3	2790.5	2799.8	2809.0	2818.3	2827.6	2836.9	2846.2	2855.6	2864.9	2874.3	400
410	2874.3	2883.7	2893.1	2902.5	2911.9	2921.4	2930.8	2940.3	2949.8	2959.3	2968.9	410
420	2968.9	2978.4	2988.0	2997.6	3007.2	3016.8	3026.4	3036.0	3045.7	3055.4	3065.1	420
430	3065.1	3074.8	3084.5	3094.3	3104.1	3113.8	3123.6	3133.5	3143.3	3153.1	3163.0	430
440	3163.0	3172.9	3182.8	3192.7	3202.6	3212.6	3222.6	3232.5	3242.6	3252.6	3262.6	440
450	3262.6	3272.7	3282.7	3292.8	3302.9	3313.1	3323.2	3333.4	3343.5	3353.7	3363.9	450
460	3363.9	3374.2	3384.4	3394.7	3405.0	3415.3	3425.6	3435.9	3446.3	3456.6	3467.0	460
470	3467.0	3477.4	3487.9	3498.3	3508.8	3519.2	3529.7	3540.2	3550.8	3561.3	3571.9	470
480	3571.9	3582.5	3593.1	3603.7	3614.3	3625.0	3635.7	3646.4	3657.1	3667.8	3678.5	480
490	3678.5	3689.3	3700.1	3710.9	3721.7	3732.5	3743.4	3754.3	3765.2	3776.1	3787.0	490
500	3787.0	3797.9	3808.9	3819.9	3830.9	3841.9	3853.0	3864.0	3875.1	3886.2	3897.3	500
°C	0	1	2	3	4	5	6	7	8	9	10	°C

TABLE 17 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

Thermoelectric Voltage in Microvolts

°C	0	1	2	3	4	5	6	7	8	9	10	°C
500	3787.0	3797.9	3808.9	3819.9	3830.9	3841.9	3853.0	3864.0	3875.1	3886.2	3897.3	**500**
510	3897.3	3908.4	3919.6	3930.7	3941.9	3953.1	3964.3	3975.6	3986.8	3998.1	4009.4	**510**
520	4009.4	4020.7	4032.1	4043.4	4054.8	4066.2	4077.6	4089.0	4100.5	4111.9	4123.4	**520**
530	4123.4	4134.9	4146.4	4158.0	4169.5	4181.1	4192.7	4204.3	4215.9	4227.6	4239.3	**530**
540	4239.3	4250.9	4262.7	4274.4	4286.1	4297.9	4309.7	4321.5	4333.3	4345.1	4357.0	**540**
550	4357.0	4368.9	4380.8	4392.7	4404.6	4416.6	4428.5	4440.5	4452.5	4464.6	4476.6	**550**
560	4476.6	4488.7	4500.8	4512.9	4525.0	4537.1	4549.3	4561.5	4573.7	4585.9	4598.1	**560**
570	4598.1	4610.4	4622.7	4635.0	4647.3	4659.6	4672.0	4684.3	4696.7	4709.1	4721.6	**570**
580	4721.6	4734.0	4746.5	4759.0	4771.5	4784.0	4796.5	4809.1	4821.7	4834.3	4846.9	**580**
590	4846.9	4859.5	4872.2	4884.9	4897.6	4910.3	4923.0	4935.8	4948.5	4961.3	4974.1	**590**
600	4974.1	4987.0	4999.8	5012.7	5025.6	5038.5	5051.4	5064.4	5077.3	5090.3	5103.3	**600**
610	5103.3	5116.3	5129.4	5142.4	5155.5	5168.6	5181.7	5194.9	5208.0	5221.2	5234.4	**610**
620	5234.4	5247.6	5260.8	5274.1	5287.4	5300.6	5314.0	5327.3	5340.6	5354.0	5367.4	**620**
630	5367.4	5380.8	5394.2	5407.7	5421.1	5434.6	5448.1	5461.6	5475.2	5488.7	5502.3	**630**
640	5502.3	5515.9	5529.5	5543.1	5556.8	5570.5	5584.2	5597.9	5611.6	5625.4	5639.1	**640**
650	5639.1	5652.9	5666.7	5680.6	5694.4	5708.3	5722.1	5736.0	5750.0	5763.9	5777.9	**650**
660	5777.9	5791.8	5805.8	5819.9	5833.9	5848.0	5862.0	5876.1	5890.2	5904.4	5918.5	**660**
670	5918.5	5932.7	5946.9	5961.1	5975.3	5989.5	6003.8	6018.1	6032.4	6046.7	6061.1	**670**
680	6061.1	6075.4	6089.8	6104.2	6118.6	6133.0	6147.5	6162.0	6176.4	6191.0	6205.5	**680**
690	6205.5	6220.0	6234.6	6249.2	6263.8	6278.4	6293.1	6307.7	6322.4	6337.1	6351.8	**690**
700	6351.8	6366.5	6381.3	6396.1	6410.9	6425.7	6440.5	6455.3	6470.2	6485.1	6500.0	**700**
710	6500.0	6514.9	6529.9	6544.8	6559.8	6574.8	6589.8	6604.9	6619.9	6635.0	6650.1	**710**
720	6650.1	6665.2	6680.3	6695.5	6710.6	6725.8	6741.0	6756.2	6771.5	6786.7	6802.0	**720**
730	6802.0	6817.3	6832.6	6847.9	6863.3	6878.7	6894.0	6909.4	6924.9	6940.3	6955.8	**730**
740	6955.8	6971.2	6986.7	7002.3	7017.8	7033.3	7048.9	7064.5	7080.1	7095.7	7111.4	**740**
750	7111.4	7127.0	7142.7	7158.4	7174.1	7189.9	7205.6	7221.4	7237.2	7253.0	7268.8	**750**
760	7268.8	7284.7	7300.5	7316.4	7332.3	7348.2	7364.2	7380.1	7396.1	7412.1	7428.1	**760**
770	7428.1	7444.1	7460.1	7476.2	7492.3	7508.4	7524.5	7540.6	7556.8	7572.9	7589.1	**770**
780	7589.1	7605.3	7621.5	7637.8	7654.0	7670.3	7686.6	7702.9	7719.3	7735.6	7752.0	**780**
790	7752.0	7768.3	7784.7	7801.2	7817.6	7834.0	7850.5	7867.0	7883.5	7900.0	7916.6	**790**
800	7916.6	7933.1	7949.7	7966.3	7982.9	7999.5	8016.2	8032.9	8049.5	8066.2	8082.9	**800**
810	8082.9	8099.7	8116.4	8133.2	8150.0	8166.8	8183.6	8200.4	8217.3	8234.2	8251.1	**810**
820	8251.1	8268.0	8284.9	8301.8	8318.8	8335.8	8352.8	8369.8	8386.8	8403.8	8420.9	**820**
830	8420.9	8438.0	8455.1	8472.2	8489.3	8506.5	8523.6	8540.8	8558.0	8575.2	8592.5	**830**
840	8592.5	8609.7	8627.0	8644.3	8661.6	8678.9	8696.2	8713.6	8730.9	8748.3	8765.7	**840**
850	8765.7	8783.1	8800.6	8818.0	8835.5	8853.0	8870.5	8888.0	8905.5	8923.1	8940.7	**850**
860	8940.7	8958.3	8975.9	8993.5	9011.1	9028.8	9046.4	9064.1	9081.8	9099.5	9117.3	**860**
870	9117.3	9135.0	9152.8	9170.6	9188.4	9206.2	9224.0	9241.9	9259.7	9277.6	9295.5	**870**
880	9295.5	9313.4	9331.4	9349.3	9367.3	9385.3	9403.3	9421.3	9439.3	9457.4	9475.4	**880**
890	9475.4	9493.5	9511.6	9529.7	9547.8	9566.0	9584.1	9602.3	9620.5	9638.7	9656.9	**890**
900	9656.9	9675.2	9693.4	9711.7	9730.0	9748.3	9766.6	9784.9	9803.3	9821.6	9840.0	**900**
910	9840.0	9858.4	9876.8	9895.3	9913.7	9932.2	9950.7	9969.1	9987.7	10006.2	10024.7	**910**
920	10024.7	10043.3	10061.8	10080.4	10099.0	10117.7	10136.3	10154.9	10173.6	10192.3	10211.0	**920**
930	10211.0	10229.7	10248.4	10267.2	10285.9	10304.7	10323.5	10342.3	10361.1	10379.9	10398.8	**930**
940	10398.8	10417.6	10436.5	10455.4	10474.3	10493.3	10512.2	10531.2	10550.1	10569.1	10588.1	**940**
950	10588.1	10607.1	10626.2	10645.2	10664.3	10683.3	10702.4	10721.5	10740.7	10759.8	10779.0	**950**
960	10779.0	10798.1	10817.3	10836.5	10855.7	10874.9	10894.2	10913.4	10932.7	10952.0	10971.3	**960**
970	10971.3	10990.6	11010.0	11029.3	11048.7	11068.0	11087.4	11106.8	11126.3	11145.7	11165.1	**970**
980	11165.1	11184.6	11204.1	11223.6	11243.1	11262.6	11282.1	11301.7	11321.3	11340.8	11360.4	**980**
990	11360.4	11380.0	11399.7	11419.3	11439.0	11458.6	11478.3	11498.0	11517.7	11537.4	11557.2	**990**
1000	11557.2	11576.9	11596.7	11616.5	11636.3	11656.1	11675.9	11695.7	11715.6	11735.5	11755.3	**1000**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

TABLE 17 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

°C	0	1	2	3	4	5	6	7	8	9	10	°C
						Thermoelectric Voltage in Microvolts						
1000	11557.2	11576.9	11596.7	11616.5	11636.3	11656.1	11675.9	11695.7	11715.6	11735.5	11755.3	**1000**
1010	11755.3	11775.2	11795.1	11815.1	11835.0	11855.0	11874.9	11894.9	11914.9	11934.9	11954.9	**1010**
1020	11954.9	11975.0	11995.0	12015.1	12035.2	12055.2	12075.3	12095.5	12115.6	12135.7	12155.9	**1020**
1030	12155.9	12176.1	12196.3	12216.5	12236.7	12256.9	12277.2	12297.4	12317.7	12338.0	12358.3	**1030**
1040	12358.3	12378.6	12398.9	12419.3	12439.6	12460.0	12480.3	12500.7	12521.2	12541.6	12562.0	**1040**
1050	12562.0	12582.5	12602.9	12623.4	12643.9	12664.4	12684.9	12705.4	12726.0	12746.5	12767.1	**1050**
1060	12767.1	12787.7	12808.3	12828.9	12849.5	12870.1	12890.8	12911.4	12932.1	12952.8	12973.5	**1060**
1070	12973.5	12994.2	13014.9	13035.7	13056.4	13077.2	13098.0	13118.8	13139.6	13160.4	13181.2	**1070**
1080	13181.2	13202.1	13222.9	13243.8	13264.7	13285.6	13306.5	13327.4	13348.4	13369.3	13390.3	**1080**
1090	13390.3	13411.2	13432.2	13453.2	13474.2	13495.3	13516.3	13537.4	13558.4	13579.5	13600.6	**1090**
1100	13600.6	13621.7	13642.8	13663.9	13685.1	13706.2	13727.4	13748.6	13769.8	13791.0	13812.2	**1100**
1110	13812.2	13833.4	13854.7	13875.9	13897.2	13918.5	13939.8	13961.1	13982.4	14003.7	14025.1	**1110**
1120	14025.1	14046.4	14067.8	14089.2	14110.6	14132.0	14153.4	14174.8	14196.3	14217.7	14239.2	**1120**
1130	14239.2	14260.6	14282.1	14303.6	14325.2	14346.7	14368.2	14389.8	14411.3	14432.9	14454.5	**1130**
1140	14454.5	14476.1	14497.7	14519.3	14541.0	14562.6	14584.3	14606.0	14627.7	14649.4	14671.1	**1140**
1150	14671.1	14692.8	14714.5	14736.3	14758.0	14779.8	14801.6	14823.4	14845.2	14867.0	14888.8	**1150**
1160	14888.8	14910.7	14932.5	14954.4	14976.3	14998.2	15020.1	15042.0	15063.9	15085.8	15107.8	**1160**
1170	15107.8	15129.7	15151.7	15173.7	15195.7	15217.7	15239.7	15261.8	15283.8	15305.9	15327.9	**1170**
1180	15327.9	15350.0	15372.1	15394.2	15416.3	15438.4	15460.6	15482.7	15504.9	15527.0	15549.2	**1180**
1190	15549.2	15571.4	15593.6	15615.8	15638.1	15660.3	15682.6	15704.8	15727.1	15749.4	15771.7	**1190**
1200	15771.7	15794.0	15816.3	15838.6	15861.0	15883.3	15905.7	15928.1	15950.5	15972.9	15995.3	**1200**
1210	15995.3	16017.7	16040.1	16062.6	16085.0	16107.5	16130.0	16152.5	16175.0	16197.5	16220.0	**1210**
1220	16220.0	16242.5	16265.1	16287.6	16310.2	16332.8	16355.4	16378.0	16400.6	16423.2	16445.9	**1220**
1230	16445.9	16468.5	16491.2	16513.8	16536.5	16559.2	16581.9	16604.6	16627.3	16650.1	16672.8	**1230**
1240	16672.8	16695.6	16718.3	16741.1	16763.9	16786.7	16809.5	16832.3	16855.2	16878.0	16900.9	**1240**
1250	16900.9	16923.7	16946.6	16969.5	16992.4	17015.3	17038.2	17061.2	17084.1	17107.0	17130.0	**1250**
1260	17130.0	17153.0	17176.0	17199.0	17222.0	17245.0	17268.0	17291.0	17314.1	17337.2	17360.2	**1260**
1270	17360.2	17383.3	17406.4	17429.5	17452.6	17475.7	17498.9	17522.0	17545.2	17568.3	17591.5	**1270**
1280	17591.5	17614.7	17637.9	17661.1	17684.3	17707.6	17730.8	17754.0	17777.3	17800.6	17823.9	**1280**
1290	17823.9	17847.1	17870.4	17893.8	17917.1	17940.4	17963.8	17987.1	18010.5	18033.9	18057.2	**1290**
1300	18057.2	18080.6	18104.0	18127.5	18150.9	18174.3	18197.8	18221.2	18244.7	18268.2	18291.7	**1300**
1310	18291.7	18315.2	18338.7	18362.2	18385.7	18409.3	18432.8	18456.4	18480.0	18503.5	18527.1	**1310**
1320	18527.1	18550.7	18574.3	18598.0	18621.6	18645.2	18668.9	18692.6	18716.2	18739.9	18763.6	**1320**
1330	18763.6	18787.3	18811.0	18834.7	18858.5	18882.2	18906.0	18929.7	18953.5	18977.3	19001.1	**1330**
1340	19001.1	19024.9	19048.7	19072.5	19096.4	19120.2	19144.1	19167.9	19191.8	19215.7	19239.6	**1340**
1350	19239.6	19263.5	19287.4	19311.3	19335.3	19359.2	19383.2	19407.1	19431.1	19455.1	19479.1	**1350**
1360	19479.1	19503.1	19527.1	19551.1	19575.1	19599.2	19623.2	19647.3	19671.4	19695.5	19719.5	**1360**
1370	19719.5	19743.6	19767.8	19791.9	19816.0	19840.1	19864.3	19888.5	19912.6	19936.8	19961.0	**1370**
1380	19961.0	19985.2	20009.4	20033.6	20057.8	20082.1	20106.3	20130.6	20154.8	20179.1	20203.4	**1380**
1390	20203.4	20227.7	20252.0	20276.3	20300.6	20325.0	20349.3	20373.7	20398.0	20422.4	20446.8	**1390**
1400	20446.8	20471.2	20495.6	20520.0	20544.4	20568.8	20593.3	20617.7	20642.2	20666.6	20691.1	**1400**
1410	20691.1	20715.6	20740.1	20764.6	20789.1	20813.6	20838.2	20862.7	20887.3	20911.8	20936.4	**1410**
1420	20936.4	20961.0	20985.6	21010.2	21034.8	21059.4	21084.0	21108.6	21133.3	21157.9	21182.6	**1420**
1430	21182.6	21207.3	21232.0	21256.7	21281.4	21306.1	21330.8	21355.5	21380.2	21405.0	21429.7	**1430**
1440	21429.7	21454.5	21479.3	21504.1	21528.9	21553.7	21578.5	21603.3	21628.1	21653.0	21677.8	**1440**
1450	21677.8	21702.7	21727.5	21752.4	21777.3	21802.2	21827.1	21852.0	21876.9	21901.8	21926.8	**1450**
1460	21926.8	21951.7	21976.7	22001.7	22026.6	22051.6	22076.6	22101.6	22126.6	22151.6	22176.7	**1460**
1470	22176.7	22201.7	22226.8	22251.8	22276.9	22301.9	22327.0	22352.1	22377.2	22402.3	22427.4	**1470**
1480	22427.4	22452.6	22477.7	22502.9	22528.0	22553.2	22578.3	22603.5	22628.7	22653.9	22679.1	**1480**
1490	22679.1	22704.3	22729.6	22754.8	22780.0	22805.3	22830.5	22855.8	22881.1	22906.4	22931.7	**1490**
1500	22931.7											**1500**
°C	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°C**

TABLE 17 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°C), reference junctions at 0°C *Continued*

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum versus Palladium thermocouples (coefficients in μV and °C)

0 °C to 660.323 °C		660.323 °C to 1500 °C	
c_0 =	0.000 000	c_0 =	$-4.977\ 137\ 0 \times 10^{2}$
c_1 =	$5.296\ 958$	c_1 =	$1.018\ 254\ 5 \times 10^{1}$
c_2 =	$4.610\ 494 \times 10^{-3}$	c_2 =	$-1.579\ 351\ 5 \times 10^{-2}$
c_3 =	$-9.602\ 271 \times 10^{-6}$	c_3 =	$3.636\ 170\ 0 \times 10^{-5}$
c_4 =	$2.992\ 243 \times 10^{-8}$	c_4 =	$-2.690\ 150\ 9 \times 10^{-8}$
c_5 =	$-2.012\ 523 \times 10^{-11}$	c_5 =	$9.562\ 736\ 6 \times 10^{-12}$
c_6 =	$-1.268\ 514 \times 10^{-14}$	c_6 =	$-1.357\ 073\ 7 \times 10^{-15}$
c_7 =	$2.257\ 823 \times 10^{-17}$		
c_8 =	$-8.510\ 068 \times 10^{-21}$		

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
30			0.0	2.9	5.9	8.8	11.8	14.7	17.7	20.7	23.6	30
40	23.6	26.6	29.6	32.5	35.5	38.5	41.5	44.5	47.4	50.4	53.4	40
50	53.4	56.4	59.4	62.4	65.4	68.4	71.4	74.4	77.4	80.5	83.5	50
60	83.5	86.5	89.5	92.5	95.6	98.6	101.6	104.7	107.7	110.8	113.8	60
70	113.8	116.8	119.9	122.9	126.0	129.0	132.1	135.2	138.2	141.3	144.4	70
80	144.4	147.4	150.5	153.6	156.7	159.7	162.8	165.9	169.0	172.1	175.2	80
90	175.2	178.3	181.4	184.5	187.6	190.7	193.8	196.9	200.0	203.1	206.2	90
100	206.2	209.3	212.5	215.6	218.7	221.8	225.0	228.1	231.2	234.4	237.5	100
110	237.5	240.7	243.8	246.9	250.1	253.2	256.4	259.5	262.7	265.9	269.0	110
120	269.0	272.2	275.4	278.5	281.7	284.9	288.0	291.2	294.4	297.6	300.8	120
130	300.8	303.9	307.1	310.3	313.5	316.7	319.9	323.1	326.3	329.5	332.7	130
140	332.7	335.9	339.1	342.3	345.6	348.8	352.0	355.2	358.4	361.7	364.9	140
150	364.9	368.1	371.3	374.6	377.8	381.0	384.3	387.5	390.8	394.0	397.3	150
160	397.3	400.5	403.8	407.0	410.3	413.5	416.8	420.1	423.3	426.6	429.9	160
170	429.9	433.1	436.4	439.7	442.9	446.2	449.5	452.8	456.1	459.4	462.6	170
180	462.6	465.9	469.2	472.5	475.8	479.1	482.4	485.7	489.0	492.3	495.7	180
190	495.7	499.0	502.3	505.6	508.9	512.2	515.6	518.9	522.2	525.5	528.9	190
200	528.9	532.2	535.5	538.9	542.2	545.5	548.9	552.2	555.6	558.9	562.3	200
210	562.3	565.6	569.0	572.3	575.7	579.1	582.4	585.8	589.1	592.5	595.9	210
220	595.9	599.3	602.6	606.0	609.4	612.8	616.2	619.5	622.9	626.3	629.7	220
230	629.7	633.1	636.5	639.9	643.3	646.7	650.1	653.5	656.9	660.3	663.7	230
240	663.7	667.2	670.6	674.0	677.4	680.8	684.3	687.7	691.1	694.5	698.0	240
250	698.0	701.4	704.8	708.3	711.7	715.2	718.6	722.1	725.5	729.0	732.4	250
260	732.4	735.9	739.3	742.8	746.2	749.7	753.2	756.6	760.1	763.6	767.1	260
270	767.1	770.5	774.0	777.5	781.0	784.5	788.0	791.4	794.9	798.4	801.9	270
280	801.9	805.4	808.9	812.4	815.9	819.4	822.9	826.5	830.0	833.5	837.0	280
290	837.0	840.5	844.0	847.6	851.1	854.6	858.2	861.7	865.2	868.8	872.3	290
300	872.3	875.8	879.4	882.9	886.5	890.0	893.6	897.1	900.7	904.3	907.8	300
310	907.8	911.4	914.9	918.5	922.1	925.7	929.2	932.8	936.4	940.0	943.6	310
320	943.6	947.1	950.7	954.3	957.9	961.5	965.1	968.7	972.3	975.9	979.5	320
330	979.5	983.1	986.7	990.4	994.0	997.6	1001.2	1004.8	1008.5	1012.1	1015.7	330
340	1015.7	1019.4	1023.0	1026.6	1030.3	1033.9	1037.6	1041.2	1044.9	1048.5	1052.2	340
350	1052.2	1055.8	1059.5	1063.1	1066.8	1070.5	1074.1	1077.8	1081.5	1085.2	1088.8	350
360	1088.8	1092.5	1096.2	1099.9	1103.6	1107.3	1111.0	1114.7	1118.4	1122.1	1125.8	360
370	1125.8	1129.5	1133.2	1136.9	1140.6	1144.3	1148.0	1151.8	1155.5	1159.2	1162.9	370
380	1162.9	1166.7	1170.4	1174.1	1177.9	1181.6	1185.4	1189.1	1192.9	1196.6	1200.4	380
390	1200.4	1204.1	1207.9	1211.6	1215.4	1219.2	1223.0	1226.7	1230.5	1234.3	1238.1	390
400	1238.1	1241.8	1245.6	1249.4	1253.2	1257.0	1260.8	1264.6	1268.4	1272.2	1276.0	400
410	1276.0	1279.8	1283.6	1287.5	1291.3	1295.1	1298.9	1302.8	1306.6	1310.4	1314.2	410
420	1314.2	1318.1	1321.9	1325.8	1329.6	1333.5	1337.3	1341.2	1345.0	1348.9	1352.8	420
430	1352.8	1356.6	1360.5	1364.4	1368.2	1372.1	1376.0	1379.9	1383.8	1387.7	1391.6	430
440	1391.6	1395.5	1399.3	1403.2	1407.2	1411.1	1415.0	1418.9	1422.8	1426.7	1430.6	440
450	1430.6	1434.6	1438.5	1442.4	1446.4	1450.3	1454.2	1458.2	1462.1	1466.1	1470.0	450
460	1470.0	1474.0	1477.9	1481.9	1485.9	1489.8	1493.8	1497.8	1501.7	1505.7	1509.7	460
470	1509.7	1513.7	1517.7	1521.7	1525.7	1529.7	1533.7	1537.7	1541.7	1545.7	1549.7	470
480	1549.7	1553.7	1557.7	1561.8	1565.8	1569.8	1573.9	1577.9	1581.9	1586.0	1590.0	480
490	1590.0	1594.1	1598.1	1602.2	1606.2	1610.3	1614.4	1618.4	1622.5	1626.6	1630.7	490
500	1630.7	1634.7	1638.8	1642.9	1647.0	1651.1	1655.2	1659.3	1663.4	1667.5	1671.6	500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
500	1630.7	1634.7	1638.8	1642.9	1647.0	1651.1	1655.2	1659.3	1663.4	1667.5	1671.6	500
510	1671.6	1675.7	1679.9	1684.0	1688.1	1692.2	1696.4	1700.5	1704.6	1708.8	1712.9	510
520	1712.9	1717.1	1721.2	1725.4	1729.5	1733.7	1737.9	1742.0	1746.2	1750.4	1754.6	520
530	1754.6	1758.7	1762.9	1767.1	1771.3	1775.5	1779.7	1783.9	1788.1	1792.3	1796.6	530
540	1796.6	1800.8	1805.0	1809.2	1813.5	1817.7	1821.9	1826.2	1830.4	1834.7	1838.9	540
550	1838.9	1843.2	1847.4	1851.7	1856.0	1860.2	1864.5	1868.8	1873.1	1877.3	1881.6	550
560	1881.6	1885.9	1890.2	1894.5	1898.8	1903.1	1907.4	1911.7	1916.1	1920.4	1924.7	560
570	1924.7	1929.0	1933.4	1937.7	1942.0	1946.4	1950.7	1955.1	1959.4	1963.8	1968.2	570
580	1968.2	1972.5	1976.9	1981.3	1985.7	1990.0	1994.4	1998.8	2003.2	2007.6	2012.0	580
590	2012.0	2016.4	2020.8	2025.2	2029.7	2034.1	2038.5	2042.9	2047.4	2051.8	2056.3	590
600	2056.3	2060.7	2065.1	2069.6	2074.1	2078.5	2083.0	2087.5	2091.9	2096.4	2100.9	600
610	2100.9	2105.4	2109.9	2114.4	2118.9	2123.4	2127.9	2132.4	2136.9	2141.4	2145.9	610
620	2145.9	2150.4	2155.0	2159.5	2164.1	2168.6	2173.1	2177.7	2182.2	2186.8	2191.4	620
630	2191.4	2195.9	2200.5	2205.1	2209.7	2214.2	2218.8	2223.4	2228.0	2232.6	2237.2	630
640	2237.2	2241.8	2246.5	2251.1	2255.7	2260.3	2265.0	2269.6	2274.2	2278.9	2283.5	640
650	2283.5	2288.2	2292.8	2297.5	2302.2	2306.8	2311.5	2316.2	2320.9	2325.5	2330.2	650
660	2330.2	2334.9	2339.6	2344.3	2349.1	2353.8	2358.5	2363.2	2367.9	2372.7	2377.4	660
670	2377.4	2382.1	2386.9	2391.6	2396.4	2401.1	2405.9	2410.7	2415.4	2420.2	2425.0	670
680	2425.0	2429.8	2434.6	2439.4	2444.2	2449.0	2453.8	2458.6	2463.4	2468.2	2473.0	680
690	2473.0	2477.9	2482.7	2487.5	2492.4	2497.2	2502.1	2506.9	2511.8	2516.7	2521.5	690
700	2521.5	2526.4	2531.3	2536.2	2541.1	2546.0	2550.9	2555.8	2560.7	2565.6	2570.5	700
710	2570.5	2575.4	2580.4	2585.3	2590.2	2595.2	2600.1	2605.1	2610.0	2615.0	2619.9	710
720	2619.9	2624.9	2629.9	2634.9	2639.8	2644.8	2649.8	2654.8	2659.8	2664.8	2669.8	720
730	2669.8	2674.8	2679.9	2684.9	2689.9	2695.0	2700.0	2705.0	2710.1	2715.2	2720.2	730
740	2720.2	2725.3	2730.3	2735.4	2740.5	2745.6	2750.7	2755.8	2760.9	2766.0	2771.1	740
750	2771.1	2776.2	2781.3	2786.4	2791.6	2796.7	2801.8	2807.0	2812.1	2817.3	2822.4	750
760	2822.4	2827.6	2832.8	2837.9	2843.1	2848.3	2853.5	2858.7	2863.9	2869.1	2874.3	760
770	2874.3	2879.5	2884.7	2889.9	2895.2	2900.4	2905.6	2910.9	2916.1	2921.4	2926.6	770
780	2926.6	2931.9	2937.1	2942.4	2947.7	2953.0	2958.3	2963.6	2968.9	2974.2	2979.5	780
790	2979.5	2984.8	2990.1	2995.4	3000.8	3006.1	3011.4	3016.8	3022.1	3027.5	3032.8	790
800	3032.8	3038.2	3043.6	3048.9	3054.3	3059.7	3065.1	3070.5	3075.9	3081.3	3086.7	800
810	3086.7	3092.1	3097.5	3103.0	3108.4	3113.8	3119.3	3124.7	3130.2	3135.6	3141.1	810
820	3141.1	3146.6	3152.0	3157.5	3163.0	3168.5	3174.0	3179.5	3185.0	3190.5	3196.0	820
830	3196.0	3201.5	3207.1	3212.6	3218.1	3223.7	3229.2	3234.8	3240.3	3245.9	3251.5	830
840	3251.5	3257.0	3262.6	3268.2	3273.8	3279.4	3285.0	3290.6	3296.2	3301.8	3307.4	840
850	3307.4	3313.1	3318.7	3324.3	3330.0	3335.6	3341.3	3346.9	3352.6	3358.3	3363.9	850
860	3363.9	3369.6	3375.3	3381.0	3386.7	3392.4	3398.1	3403.8	3409.5	3415.3	3421.0	860
870	3421.0	3426.7	3432.5	3438.2	3444.0	3449.7	3455.5	3461.3	3467.0	3472.8	3478.6	870
880	3478.6	3484.4	3490.2	3496.0	3501.8	3507.6	3513.4	3519.2	3525.1	3530.9	3536.7	880
890	3536.7	3542.6	3548.4	3554.3	3560.2	3566.0	3571.9	3577.8	3583.7	3589.5	3595.4	890
900	3595.4	3601.3	3607.2	3613.2	3619.1	3625.0	3630.9	3636.9	3642.8	3648.7	3654.7	900
910	3654.7	3660.6	3666.6	3672.6	3678.5	3684.5	3690.5	3696.5	3702.5	3708.5	3714.5	910
920	3714.5	3720.5	3726.5	3732.5	3738.6	3744.6	3750.6	3756.7	3762.7	3768.8	3774.9	920
930	3774.9	3780.9	3787.0	3793.1	3799.2	3805.3	3811.4	3817.5	3823.6	3829.7	3835.8	930
940	3835.8	3841.9	3848.0	3854.2	3860.3	3866.5	3872.6	3878.8	3884.9	3891.1	3897.3	940
950	3897.3	3903.5	3909.7	3915.8	3922.0	3928.2	3934.5	3940.7	3946.9	3953.1	3959.4	950
960	3959.4	3965.6	3971.8	3978.1	3984.3	3990.6	3996.9	4003.1	4009.4	4015.7	4022.0	960
970	4022.0	4028.3	4034.6	4040.9	4047.2	4053.5	4059.8	4066.2	4072.5	4078.9	4085.2	970
980	4085.2	4091.6	4097.9	4104.3	4110.6	4117.0	4123.4	4129.8	4136.2	4142.6	4149.0	980
990	4149.0	4155.4	4161.8	4168.2	4174.7	4181.1	4187.5	4194.0	4200.4	4206.9	4213.3	990
1000	4213.3	4219.8	4226.3	4232.8	4239.3	4245.7	4252.2	4258.7	4265.3	4271.8	4278.3	1000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
1000	4213.3	4219.8	4226.3	4232.8	4239.3	4245.7	4252.2	4258.7	4265.3	4271.8	4278.3	1000
1010	4278.3	4284.8	4291.3	4297.9	4304.4	4311.0	4317.5	4324.1	4330.7	4337.2	4343.8	1010
1020	4343.8	4350.4	4357.0	4363.6	4370.2	4376.8	4383.4	4390.0	4396.7	4403.3	4409.9	1020
1030	4409.9	4416.6	4423.2	4429.9	4436.5	4443.2	4449.9	4456.5	4463.2	4469.9	4476.6	1030
1040	4476.6	4483.3	4490.0	4496.7	4503.5	4510.2	4516.9	4523.6	4530.4	4537.1	4543.9	1040
1050	4543.9	4550.6	4557.4	4564.2	4571.0	4577.7	4584.5	4591.3	4598.1	4604.9	4611.8	1050
1060	4611.8	4618.6	4625.4	4632.2	4639.1	4645.9	4652.8	4659.6	4666.5	4673.3	4680.2	1060
1070	4680.2	4687.1	4694.0	4700.9	4707.8	4714.7	4721.6	4728.5	4735.4	4742.3	4749.2	1070
1080	4749.2	4756.2	4763.1	4770.1	4777.0	4784.0	4791.0	4797.9	4804.9	4811.9	4818.9	1080
1090	4818.9	4825.9	4832.9	4839.9	4846.9	4853.9	4860.9	4868.0	4875.0	4882.0	4889.1	1090
1100	4889.1	4896.2	4903.2	4910.3	4917.4	4924.4	4931.5	4938.6	4945.7	4952.8	4959.9	1100
1110	4959.9	4967.0	4974.1	4981.3	4988.4	4995.5	5002.7	5009.8	5017.0	5024.1	5031.3	1110
1120	5031.3	5038.5	5045.7	5052.8	5060.0	5067.2	5074.4	5081.6	5088.9	5096.1	5103.3	1120
1130	5103.3	5110.5	5117.8	5125.0	5132.3	5139.5	5146.8	5154.1	5161.3	5168.6	5175.9	1130
1140	5175.9	5183.2	5190.5	5197.8	5205.1	5212.4	5219.7	5227.1	5234.4	5241.7	5249.1	1140
1150	5249.1	5256.4	5263.8	5271.1	5278.5	5285.9	5293.3	5300.6	5308.0	5315.4	5322.8	1150
1160	5322.8	5330.3	5337.7	5345.1	5352.5	5359.9	5367.4	5374.8	5382.3	5389.7	5397.2	1160
1170	5397.2	5404.7	5412.1	5419.6	5427.1	5434.6	5442.1	5449.6	5457.1	5464.6	5472.2	1170
1180	5472.2	5479.7	5487.2	5494.8	5502.3	5509.9	5517.4	5525.0	5532.5	5540.1	5547.7	1180
1190	5547.7	5555.3	5562.9	5570.5	5578.1	5585.7	5593.3	5600.9	5608.6	5616.2	5623.8	1190
1200	5623.8	5631.5	5639.1	5646.8	5654.5	5662.1	5669.8	5677.5	5685.2	5692.9	5700.6	1200
1210	5700.6	5708.3	5716.0	5723.7	5731.4	5739.1	5746.9	5754.6	5762.4	5770.1	5777.9	1210
1220	5777.9	5785.6	5793.4	5801.2	5809.0	5816.7	5824.5	5832.3	5840.1	5848.0	5855.8	1220
1230	5855.8	5863.6	5871.4	5879.3	5887.1	5894.9	5902.8	5910.6	5918.5	5926.4	5934.3	1230
1240	5934.3	5942.1	5950.0	5957.9	5965.8	5973.7	5981.6	5989.5	5997.5	6005.4	6013.3	1240
1250	6013.3	6021.3	6029.2	6037.2	6045.1	6053.1	6061.1	6069.0	6077.0	6085.0	6093.0	1250
1260	6093.0	6101.0	6109.0	6117.0	6125.0	6133.0	6141.1	6149.1	6157.1	6165.2	6173.2	1260
1270	6173.2	6181.3	6189.3	6197.4	6205.5	6213.6	6221.7	6229.7	6237.8	6245.9	6254.1	1270
1280	6254.1	6262.2	6270.3	6278.4	6286.5	6294.7	6302.8	6311.0	6319.1	6327.3	6335.5	1280
1290	6335.5	6343.6	6351.8	6360.0	6368.2	6376.4	6384.6	6392.8	6401.0	6409.2	6417.4	1290
1300	6417.4	6425.7	6433.9	6442.1	6450.4	6458.7	6466.9	6475.2	6483.4	6491.7	6500.0	1300
1310	6500.0	6508.3	6516.6	6524.9	6533.2	6541.5	6549.8	6558.1	6566.5	6574.8	6583.1	1310
1320	6583.1	6591.5	6599.8	6608.2	6616.6	6624.9	6633.3	6641.7	6650.1	6658.5	6666.9	1320
1330	6666.9	6675.3	6683.7	6692.1	6700.5	6708.9	6717.4	6725.8	6734.2	6742.7	6751.1	1330
1340	6751.1	6759.6	6768.1	6776.5	6785.0	6793.5	6802.0	6810.5	6819.0	6827.5	6836.0	1340
1350	6836.0	6844.5	6853.0	6861.6	6870.1	6878.7	6887.2	6895.8	6904.3	6912.9	6921.4	1350
1360	6921.4	6930.0	6938.6	6947.2	6955.8	6964.4	6973.0	6981.6	6990.2	6998.8	7007.4	1360
1370	7007.4	7016.1	7024.7	7033.3	7042.0	7050.6	7059.3	7068.0	7076.6	7085.3	7094.0	1370
1380	7094.0	7102.7	7111.4	7120.1	7128.8	7137.5	7146.2	7154.9	7163.7	7172.4	7181.1	1380
1390	7181.1	7189.9	7198.6	7207.4	7216.1	7224.9	7233.7	7242.5	7251.2	7260.0	7268.8	1390
1400	7268.8	7277.6	7286.4	7295.2	7304.1	7312.9	7321.7	7330.5	7339.4	7348.2	7357.1	1400
1410	7357.1	7365.9	7374.8	7383.7	7392.5	7401.4	7410.3	7419.2	7428.1	7437.0	7445.9	1410
1420	7445.9	7454.8	7463.7	7472.6	7481.6	7490.5	7499.4	7508.4	7517.3	7526.3	7535.2	1420
1430	7535.2	7544.2	7553.2	7562.2	7571.1	7580.1	7589.1	7598.1	7607.1	7616.1	7625.2	1430
1440	7625.2	7634.2	7643.2	7652.2	7661.3	7670.3	7679.4	7688.4	7697.5	7706.5	7715.6	1440
1450	7715.6	7724.7	7733.8	7742.9	7752.0	7761.1	7770.2	7779.3	7788.4	7797.5	7806.6	1450
1460	7806.6	7815.8	7824.9	7834.0	7843.2	7852.3	7861.5	7870.7	7879.8	7889.0	7898.2	1460
1470	7898.2	7907.4	7916.6	7925.8	7935.0	7944.2	7953.4	7962.6	7971.8	7981.1	7990.3	1470
1480	7990.3	7999.5	8008.8	8018.0	8027.3	8036.6	8045.8	8055.1	8064.4	8073.7	8082.9	1480
1490	8082.9	8092.2	8101.5	8110.8	8120.2	8129.5	8138.8	8148.1	8157.4	8166.8	8176.1	1490
1500	8176.1	8185.5	8194.8	8204.2	8213.6	8222.9	8232.3	8241.7	8251.1	8260.5	8269.8	1500
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Thermoelectric Voltage in Microvolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F
1500	8176.1	8185.5	8194.8	8204.2	8213.6	8222.9	8232.3	8241.7	8251.1	8260.5	8269.8	1500
1510	8269.8	8279.2	8288.7	8298.1	8307.5	8316.9	8326.3	8335.8	8345.2	8354.7	8364.1	1510
1520	8364.1	8373.6	8383.0	8392.5	8402.0	8411.4	8420.9	8430.4	8439.9	8449.4	8458.9	1520
1530	8458.9	8468.4	8477.9	8487.4	8496.9	8506.5	8516.0	8525.5	8535.1	8544.6	8554.2	1530
1540	8554.2	8563.8	8573.3	8582.9	8592.5	8602.0	8611.6	8621.2	8630.8	8640.4	8650.0	1540
1550	8650.0	8659.6	8669.3	8678.9	8688.5	8698.1	8707.8	8717.4	8727.1	8736.7	8746.4	1550
1560	8746.4	8756.1	8765.7	8775.4	8785.1	8794.8	8804.5	8814.2	8823.9	8833.6	8843.3	1560
1570	8843.3	8853.0	8862.7	8872.4	8882.2	8891.9	8901.6	8911.4	8921.1	8930.9	8940.7	1570
1580	8940.7	8950.4	8960.2	8970.0	8979.8	8989.6	8999.4	9009.1	9019.0	9028.8	9038.6	1580
1590	9038.6	9048.4	9058.2	9068.0	9077.9	9087.7	9097.6	9107.4	9117.3	9127.1	9137.0	1590
1600	9137.0	9146.9	9156.7	9166.6	9176.5	9186.4	9196.3	9206.2	9216.1	9226.0	9235.9	1600
1610	9235.9	9245.8	9255.8	9265.7	9275.6	9285.6	9295.5	9305.5	9315.4	9325.4	9335.4	1610
1620	9335.4	9345.3	9355.3	9365.3	9375.3	9385.3	9395.3	9405.3	9415.3	9425.3	9435.3	1620
1630	9435.3	9445.3	9455.4	9465.4	9475.4	9485.5	9495.5	9505.6	9515.6	9525.7	9535.7	1630
1640	9535.7	9545.8	9555.9	9566.0	9576.1	9586.1	9596.2	9606.3	9616.5	9626.6	9636.7	1640
1650	9636.7	9646.8	9656.9	9667.1	9677.2	9687.3	9697.5	9707.6	9717.8	9727.9	9738.1	1650
1660	9738.1	9748.3	9758.5	9768.6	9778.8	9789.0	9799.2	9809.4	9819.6	9829.8	9840.0	1660
1670	9840.0	9850.2	9860.5	9870.7	9880.9	9891.2	9901.4	9911.7	9921.9	9932.2	9942.4	1670
1680	9942.4	9952.7	9963.0	9973.3	9983.5	9993.8	10004.1	10014.4	10024.7	10035.0	10045.3	1680
1690	10045.3	10055.7	10066.0	10076.3	10086.6	10097.0	10107.3	10117.7	10128.0	10138.4	10148.7	1690
1700	10148.7	10159.1	10169.4	10179.8	10190.2	10200.6	10211.0	10221.4	10231.8	10242.2	10252.6	1700
1710	10252.6	10263.0	10273.4	10283.8	10294.3	10304.7	10315.1	10325.6	10336.0	10346.5	10356.9	1710
1720	10356.9	10367.4	10377.8	10388.3	10398.8	10409.3	10419.7	10430.2	10440.7	10451.2	10461.7	1720
1730	10461.7	10472.2	10482.7	10493.3	10503.8	10514.3	10524.8	10535.4	10545.9	10556.5	10567.0	1730
1740	10567.0	10577.6	10588.1	10598.7	10609.2	10619.8	10630.4	10641.0	10651.6	10662.2	10672.7	1740
1750	10672.7	10683.3	10694.0	10704.6	10715.2	10725.8	10736.4	10747.0	10757.7	10768.3	10779.0	1750
1760	10779.0	10789.6	10800.3	10810.9	10821.6	10832.2	10842.9	10853.6	10864.3	10874.9	10885.6	1760
1770	10885.6	10896.3	10907.0	10917.7	10928.4	10939.1	10949.9	10960.6	10971.3	10982.0	10992.8	1770
1780	10992.8	11003.5	11014.3	11025.0	11035.8	11046.5	11057.3	11068.0	11078.8	11089.6	11100.4	1780
1790	11100.4	11111.1	11121.9	11132.7	11143.5	11154.3	11165.1	11175.9	11186.8	11197.6	11208.4	1790
1800	11208.4	11219.2	11230.1	11240.9	11251.8	11262.6	11273.5	11284.3	11295.2	11306.0	11316.9	1800
1810	11316.9	11327.8	11338.7	11349.5	11360.4	11371.3	11382.2	11393.1	11404.0	11414.9	11425.9	1810
1820	11425.9	11436.8	11447.7	11458.6	11469.6	11480.5	11491.4	11502.4	11513.3	11524.3	11535.2	1820
1830	11535.2	11546.2	11557.2	11568.1	11579.1	11590.1	11601.1	11612.1	11623.1	11634.1	11645.1	1830
1840	11645.1	11656.1	11667.1	11678.1	11689.1	11700.2	11711.2	11722.2	11733.3	11744.3	11755.3	1840
1850	11755.3	11766.4	11777.4	11788.5	11799.6	11810.6	11821.7	11832.8	11843.9	11855.0	11866.0	1850
1860	11866.0	11877.1	11888.2	11899.3	11910.5	11921.6	11932.7	11943.8	11954.9	11966.1	11977.2	1860
1870	11977.2	11988.3	11999.5	12010.6	12021.8	12032.9	12044.1	12055.2	12066.4	12077.6	12088.8	1870
1880	12088.8	12099.9	12111.1	12122.3	12133.5	12144.7	12155.9	12167.1	12178.3	12189.5	12200.8	1880
1890	12200.8	12212.0	12223.2	12234.4	12245.7	12256.9	12268.2	12279.4	12290.7	12301.9	12313.2	1890
1900	12313.2	12324.5	12335.7	12347.0	12358.3	12369.6	12380.8	12392.1	12403.4	12414.7	12426.0	1900
1910	12426.0	12437.3	12448.7	12460.0	12471.3	12482.6	12493.9	12505.3	12516.6	12528.0	12539.3	1910
1920	12539.3	12550.7	12562.0	12573.4	12584.7	12596.1	12607.5	12618.8	12630.2	12641.6	12653.0	1920
1930	12653.0	12664.4	12675.8	12687.2	12698.6	12710.0	12721.4	12732.8	12744.2	12755.7	12767.1	1930
1940	12767.1	12778.5	12790.0	12801.4	12812.8	12824.3	12835.7	12847.2	12858.7	12870.1	12881.6	1940
1950	12881.6	12893.1	12904.5	12916.0	12927.5	12939.0	12950.5	12962.0	12973.5	12985.0	12996.5	1950
1960	12996.5	13008.0	13019.6	13031.1	13042.6	13054.1	13065.7	13077.2	13088.7	13100.3	13111.8	1960
1970	13111.8	13123.4	13135.0	13146.5	13158.1	13169.7	13181.2	13192.8	13204.4	13216.0	13227.6	1970
1980	13227.6	13239.2	13250.8	13262.4	13274.0	13285.6	13297.2	13308.8	13320.4	13332.1	13343.7	1980
1990	13343.7	13355.3	13367.0	13378.6	13390.3	13401.9	13413.6	13425.2	13436.9	13448.6	13460.2	1990
2000	13460.2	13471.9	13483.6	13495.3	13507.0	13518.7	13530.3	13542.0	13553.8	13565.5	13577.2	2000
°F	0	1	2	3	4	5	6	7	8	9	10	°F

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

°F	0	1	2	3	4	5	6	7	8	9	10	°F
						Thermoelectric Voltage in Microvolts						
2000	13460.2	13471.9	13483.6	13495.3	13507.0	13518.7	13530.3	13542.0	13553.8	13565.5	13577.2	**2000**
2010	13577.2	13588.9	13600.6	13612.3	13624.0	13635.8	13647.5	13659.3	13671.0	13682.7	13694.5	**2010**
2020	13694.5	13706.2	13718.0	13729.8	13741.5	13753.3	13765.1	13776.8	13788.6	13800.4	13812.2	**2020**
2030	13812.2	13824.0	13835.8	13847.6	13859.4	13871.2	13883.0	13894.8	13906.7	13918.5	13930.3	**2030**
2040	13930.3	13942.1	13954.0	13965.8	13977.7	13989.5	14001.4	14013.2	14025.1	14036.9	14048.8	**2040**
2050	14048.8	14060.7	14072.5	14084.4	14096.3	14108.2	14120.1	14132.0	14143.9	14155.8	14167.7	**2050**
2060	14167.7	14179.6	14191.5	14203.4	14215.3	14227.2	14239.2	14251.1	14263.0	14275.0	14286.9	**2060**
2070	14286.9	14298.9	14310.8	14322.8	14334.7	14346.7	14358.7	14370.6	14382.6	14394.6	14406.6	**2070**
2080	14406.6	14418.5	14430.5	14442.5	14454.5	14466.5	14478.5	14490.5	14502.5	14514.5	14526.6	**2080**
2090	14526.6	14538.6	14550.6	14562.6	14574.7	14586.7	14598.7	14610.8	14622.8	14634.9	14646.9	**2090**
2100	14646.9	14659.0	14671.1	14683.1	14695.2	14707.3	14719.4	14731.4	14743.5	14755.6	14767.7	**2100**
2110	14767.7	14779.8	14791.9	14804.0	14816.1	14828.2	14840.3	14852.5	14864.6	14876.7	14888.8	**2110**
2120	14888.8	14901.0	14913.1	14925.2	14937.4	14949.5	14961.7	14973.8	14986.0	14998.2	15010.3	**2120**
2130	15010.3	15022.5	15034.7	15046.8	15059.0	15071.2	15083.4	15095.6	15107.8	15120.0	15132.2	**2130**
2140	15132.2	15144.4	15156.6	15168.8	15181.0	15193.3	15205.5	15217.7	15229.9	15242.2	15254.4	**2140**
2150	15254.4	15266.7	15278.9	15291.1	15303.4	15315.7	15327.9	15340.2	15352.5	15364.7	15377.0	**2150**
2160	15377.0	15389.3	15401.6	15413.8	15426.1	15438.4	15450.7	15463.0	15475.3	15487.6	15499.9	**2160**
2170	15499.9	15512.3	15524.6	15536.9	15549.2	15561.5	15573.9	15586.2	15598.6	15610.9	15623.2	**2170**
2180	15623.2	15635.6	15647.9	15660.3	15672.7	15685.0	15697.4	15709.8	15722.1	15734.5	15746.9	**2180**
2190	15746.9	15759.3	15771.7	15784.1	15796.5	15808.9	15821.3	15833.7	15846.1	15858.5	15870.9	**2190**
2200	15870.9	15883.3	15895.8	15908.2	15920.6	15933.0	15945.5	15957.9	15970.4	15982.8	15995.3	**2200**
2210	15995.3	16007.7	16020.2	16032.7	16045.1	16057.6	16070.1	16082.5	16095.0	16107.5	16120.0	**2210**
2220	16120.0	16132.5	16145.0	16157.5	16170.0	16182.5	16195.0	16207.5	16220.0	16232.5	16245.0	**2220**
2230	16245.0	16257.6	16270.1	16282.6	16295.2	16307.7	16320.2	16332.8	16345.3	16357.9	16370.4	**2230**
2240	16370.4	16383.0	16395.6	16408.1	16420.7	16433.3	16445.9	16458.4	16471.0	16483.6	16496.2	**2240**
2250	16496.2	16508.8	16521.4	16534.0	16546.6	16559.2	16571.8	16584.4	16597.0	16609.7	16622.3	**2250**
2260	16622.3	16634.9	16647.5	16660.2	16672.8	16685.5	16698.1	16710.7	16723.4	16736.0	16748.7	**2260**
2270	16748.7	16761.4	16774.0	16786.7	16799.4	16812.0	16824.7	16837.4	16850.1	16862.8	16875.5	**2270**
2280	16875.5	16888.2	16900.9	16913.6	16926.3	16939.0	16951.7	16964.4	16977.1	16989.8	17002.6	**2280**
2290	17002.6	17015.3	17028.0	17040.8	17053.5	17066.2	17079.0	17091.7	17104.5	17117.2	17130.0	**2290**
2300	17130.0	17142.8	17155.5	17168.3	17181.1	17193.8	17206.6	17219.4	17232.2	17245.0	17257.8	**2300**
2310	17257.8	17270.6	17283.4	17296.2	17309.0	17321.8	17334.6	17347.4	17360.2	17373.0	17385.9	**2310**
2320	17385.9	17398.7	17411.5	17424.4	17437.2	17450.0	17462.9	17475.7	17488.6	17501.4	17514.3	**2320**
2330	17514.3	17527.2	17540.0	17552.9	17565.8	17578.6	17591.5	17604.4	17617.3	17630.2	17643.1	**2330**
2340	17643.1	17655.9	17668.8	17681.7	17694.6	17707.6	17720.5	17733.4	17746.3	17759.2	17772.1	**2340**
2350	17772.1	17785.1	17798.0	17810.9	17823.9	17836.8	17849.7	17862.7	17875.6	17888.6	17901.5	**2350**
2360	17901.5	17914.5	17927.5	17940.4	17953.4	17966.4	17979.3	17992.3	18005.3	18018.3	18031.3	**2360**
2370	18031.3	18044.3	18057.2	18070.2	18083.2	18096.2	18109.3	18122.3	18135.3	18148.3	18161.3	**2370**
2380	18161.3	18174.3	18187.4	18200.4	18213.4	18226.5	18239.5	18252.5	18265.6	18278.6	18291.7	**2380**
2390	18291.7	18304.7	18317.8	18330.8	18343.9	18357.0	18370.0	18383.1	18396.2	18409.3	18422.4	**2390**
2400	18422.4	18435.4	18448.5	18461.6	18474.7	18487.8	18500.9	18514.0	18527.1	18540.2	18553.4	**2400**
2410	18553.4	18566.5	18579.6	18592.7	18605.8	18619.0	18632.1	18645.2	18658.4	18671.5	18684.7	**2410**
2420	18684.7	18697.8	18711.0	18724.1	18737.3	18750.4	18763.6	18776.8	18789.9	18803.1	18816.3	**2420**
2430	18816.3	18829.5	18842.7	18855.8	18869.0	18882.2	18895.4	18908.6	18921.8	18935.0	18948.2	**2430**
2440	18948.2	18961.4	18974.7	18987.9	19001.1	19014.3	19027.5	19040.8	19054.0	19067.2	19080.5	**2440**
2450	19080.5	19093.7	19107.0	19120.2	19133.5	19146.7	19160.0	19173.2	19186.5	19199.8	19213.0	**2450**
2460	19213.0	19226.3	19239.6	19252.9	19266.1	19279.4	19292.7	19306.0	19319.3	19332.6	19345.9	**2460**
2470	19345.9	19359.2	19372.5	19385.8	19399.1	19412.4	19425.8	19439.1	19452.4	19465.7	19479.1	**2470**
2480	19479.1	19492.4	19505.7	19519.1	19532.4	19545.8	19559.1	19572.5	19585.8	19599.2	19612.5	**2480**
2490	19612.5	19625.9	19639.3	19652.6	19666.0	19679.4	19692.8	19706.2	19719.5	19732.9	19746.3	**2490**
2500	19746.3	19759.7	19773.1	19786.5	19799.9	19813.3	19826.7	19840.1	19853.6	19867.0	19880.4	**2500**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

TABLE 18 Platinum versus Palladium thermocouples—thermoelectric voltage as a function of temperature (°F), reference junctions at 32°F *Continued*

Thermoelectric Voltage in Microvolts

°F	0	1	2	3	4	5	6	7	8	9	10	°F
2500	19746.3	19759.7	19773.1	19786.5	19799.9	19813.3	19826.7	19840.1	19853.6	19867.0	19880.4	**2500**
2510	19880.4	19893.8	19907.3	19920.7	19934.1	19947.6	19961.0	19974.4	19987.9	20001.3	20014.8	**2510**
2520	20014.8	20028.2	20041.7	20055.1	20068.6	20082.1	20095.5	20109.0	20122.5	20136.0	20149.5	**2520**
2530	20149.5	20162.9	20176.4	20189.9	20203.4	20216.9	20230.4	20243.9	20257.4	20270.9	20284.4	**2530**
2540	20284.4	20297.9	20311.5	20325.0	20338.5	20352.0	20365.6	20379.1	20392.6	20406.2	20419.7	**2540**
2550	20419.7	20433.2	20446.8	20460.3	20473.9	20487.4	20501.0	20514.6	20528.1	20541.7	20555.3	**2550**
2560	20555.3	20568.8	20582.4	20596.0	20609.6	20623.2	20636.7	20650.3	20663.9	20677.5	20691.1	**2560**
2570	20691.1	20704.7	20718.3	20731.9	20745.5	20759.2	20772.8	20786.4	20800.0	20813.6	20827.3	**2570**
2580	20827.3	20840.9	20854.5	20868.2	20881.8	20895.4	20909.1	20922.7	20936.4	20950.0	20963.7	**2580**
2590	20963.7	20977.4	20991.0	21004.7	21018.4	21032.0	21045.7	21059.4	21073.1	21086.7	21100.4	**2590**
2600	21100.4	21114.1	21127.8	21141.5	21155.2	21168.9	21182.6	21196.3	21210.0	21223.7	21237.4	**2600**
2610	21237.4	21251.2	21264.9	21278.6	21292.3	21306.1	21319.8	21333.5	21347.3	21361.0	21374.7	**2610**
2620	21374.7	21388.5	21402.2	21416.0	21429.7	21443.5	21457.3	21471.0	21484.8	21498.6	21512.3	**2620**
2630	21512.3	21526.1	21539.9	21553.7	21567.4	21581.2	21595.0	21608.8	21622.6	21636.4	21650.2	**2630**
2640	21650.2	21664.0	21677.8	21691.6	21705.4	21719.2	21733.1	21746.9	21760.7	21774.5	21788.4	**2640**
2650	21788.4	21802.2	21816.0	21829.9	21843.7	21857.5	21871.4	21885.2	21899.1	21912.9	21926.8	**2650**
2660	21926.8	21940.6	21954.5	21968.4	21982.2	21996.1	22010.0	22023.9	22037.7	22051.6	22065.5	**2660**
2670	22065.5	22079.4	22093.3	22107.2	22121.1	22135.0	22148.9	22162.8	22176.7	22190.6	22204.5	**2670**
2680	22204.5	22218.4	22232.3	22246.2	22260.2	22274.1	22288.0	22301.9	22315.9	22329.8	22343.8	**2680**
2690	22343.8	22357.7	22371.6	22385.6	22399.5	22413.5	22427.4	22441.4	22455.4	22469.3	22483.3	**2690**
2700	22483.3	22497.3	22511.2	22525.2	22539.2	22553.2	22567.2	22581.1	22595.1	22609.1	22623.1	**2700**
2710	22623.1	22637.1	22651.1	22665.1	22679.1	22693.1	22707.1	22721.1	22735.2	22749.2	22763.2	**2710**
2720	22763.2	22777.2	22791.2	22805.3	22819.3	22833.3	22847.4	22861.4	22875.5	22889.5	22903.6	**2720**
2730	22903.6	22917.6	22931.7									**2730**
°F	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**°F**

Coefficients and temperature ranges of equations used to compute the above ITS-90 based table for Platinum versus Palladium thermocouples (coefficients in μV and °F)

32 °F to 1220.581 °F		1220.581 °F to 2732 °F	
c_0	$= -9.265\,402\,2 \times 10^{1}$	c_0	$= -6.839\,352\,61 \times 10^{2}$
c_1	$= 2.846\,245\,9$	c_1	$= 5.988\,432\,15$
c_2	$= 1.598\,909\,8 \times 10^{-3}$	c_2	$= -5.488\,999\,45 \times 10^{-3}$
c_3	$= -2.021\,980\,2 \times 10^{-6}$	c_3	$= 6.568\,084\,99 \times 10^{-6}$
c_4	$= 3.014\,660\,8 \times 10^{-9}$	c_4	$= -2.644\,219\,97 \times 10^{-9}$
c_5	$= -9.853\,902\,2 \times 10^{-13}$	c_5	$= 5.137\,412\,96 \times 10^{-13}$
c_6	$= -4.577\,820\,1 \times 10^{-16}$	c_6	$= -3.989\,958\,73 \times 10^{-17}$
c_7	$= 3.885\,621\,1 \times 10^{-19}$		
c_8	$= -7.722\,412\,4 \times 10^{-23}$		

TABLE 19 Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of the Thermocouple emf

Tungsten versus Tungsten–26% Rhenium

$$T = b_0 + b_1E + b_2E^2 + \ldots b_nE^n$$

0 mV to 2.055 mV

	0 °C to 300 °C		32 °F to 572 °F
b_0	0.000 000 000 0	3.200 000 000 00 X 10^1	
b_1	6.705 960 601 6 X 10^2	1.207 072 908 29 X 10^3	
b_2	−3.280 897 881 9 X 10^3	−5.905 616 187 36 X 10^3	
b_3	1.446 584 572 0 X 10^4	2.603 852 229 69 X 10^4	
b_4	−4.147 326 942 6 X 10^4	−7.465 188 496 77 X 10^4	
b_5	7.721 438 364 9 X 10^4	1.389 858 905 68 X 10^5	
b_6	−9.506 396 816 7 X 10^4	−1.711 151 427 01 X 10^5	
b_7	7.794 979 300 9 X 10^4	1.403 096 274 16 X 10^5	
b_8	−4.206 582 520 9 X 10^4	−7.571 848 537 54 X 10^4	
b_9	1.433 767 023 7 X 10^4	2.580 780 642 73 X 10^4	
b_{10}	−2.796 132 683 0 X 10^3	−5.033 038 829 31 X 10^3	
b_{11}	2.376 890 168 3 X 10^2	4.278 402 302 96 X 10^2	
Error Range:	−0.67 °C to +0.40 °C	Error Range:	−1.21 °F to +0.72 °F

2.055 mV to 38.576 mV

	300 °C to 2315.6 °C		572 °F to 4200 °F
b_0	8.664 425 199 X 10^1	1.879 596 535 8 X 10^2	
b_1	1.290 908 123 X 10^2	2.323 634 621 8 X 10^2	
b_2	−1.586 839 697 X 10^1	−2.856 311 454 5 X 10^1	
b_3	2.131 216 354	3.836 189 437 4	
b_4	−1.986 846 344 X 10^{-1}	−3.576 323 418 5 X 10^{-1}	
b_5	1.261 591 085 X 10^{-2}	2.270 863 953 7 X 10^{-2}	
b_6	−5.394 483 372 X 10^{-4}	−9.710 070 069 7 X 10^{-4}	
b_7	1.523 931 582 X 10^{-5}	2.743 076 848 4 X 10^{-5}	
b_8	−2.719 045 571 X 10^{-7}	−4.894 282 028 2 X 10^{-7}	
b_9	2.769 535 582 X 10^{-9}	4.985 164 047 3 X 10^{-9}	
b_{10}	−1.224 060 077 X 10^{-11}	−2.203 308 138 4 X 10^{-11}	
Error Range:	−0.17 °C to +0.26 °C	Error Range:	−0.31 °F to +0.47 °F

Platinel II

0 mV to 55.257 mV

	0 °C to 1395 °C		32 °F to 2543 °F
b_0	0.000 000 0	3.200 000 00 X 10^1	
b_1	3.320 465 7 X 10^1	5.976 838 25 X 10^1	
b_2	−1.073 521 3	−1.932 338 37	
b_3	6.779 240 1 X 10^{-2}	1.220 263 22 X 10^{-1}	
b_4	−2.989 931 6 X 10^{-3}	−5.381 876 96 X 10^{-3}	
b_5	8.705 819 8 X 10^{-5}	1.567 047 56 X 10^{-4}	
b_6	−1.531 907 4 X 10^{-6}	−2.757 433 37 X 10^{-6}	
b_7	1.472 561 7 X 10^{-8}	2.650 611 11 X 10^{-8}	
b_8	−5.901 123 5 X 10^{-11}	−1.062 202 23 X 10^{-10}	
Error Range:	−0.19 °C to +0.08 °C	Error Range:	−0.34 °F to +0.14 °F

TABLE 19 Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of the Thermocouple emf *Continued*

K (Positive) versus Gold–0.07% Iron

–5.254 mV to 0.156 mV

	–268 °C to 7 °C	–450 °F to 45 °F
b_0 =	0.000 000 000	$3.200\,000\,000\,0 \times 10^{1}$
b_1 =	$4.462\,487\,305 \times 10^{1}$	$8.032\,477\,148\,1 \times 10^{1}$
b_2 =	$-2.583\,212\,436 \times 10^{-1}$	$-4.649\,782\,384\,9 \times 10^{-1}$
b_3 =	6.182 611 412	$1.112\,870\,054\,1 \times 10^{1}$
b_4 =	$1.623\,188\,563 \times 10^{1}$	$2.921\,739\,413\,8 \times 10^{1}$
b_5 =	$1.953\,393\,681 \times 10^{1}$	$3.516\,108\,624\,9 \times 10^{1}$
b_6 =	$1.329\,766\,203 \times 10^{1}$	$2.393\,579\,165\,0 \times 10^{1}$
b_7 =	5.535 819 147	9.964 474 464 6
b_8 =	1.437 999 207	2.588 398 573 4
b_9 =	$2.275\,177\,635 \times 10^{-1}$	$4.095\,319\,742\,9 \times 10^{-1}$
b_{10} =	$2.005\,928\,422 \times 10^{-2}$	$3.610\,671\,159\,8 \times 10^{-2}$
b_{11} =	$7.553\,148\,761 \times 10^{-4}$	$1.359\,566\,777\,0 \times 10^{-3}$
Error Range:	–0.09 °C to +0.19 °C	Error Range: –0.16 °F to +0.34 °F

Platinum–5% Molybdenum versus Platinum–0.1% Molybdenum

0 mV to 3.974 mV

	0 °C to 250 °C	32 °F to 482 °F
b_0 =	0.000 00	$3.200\,000 \times 10^{1}$
b_1 =	$9.265\,22 \times 10^{1}$	$1.667\,740 \times 10^{2}$
b_2 =	$-1.563\,91 \times 10^{1}$	$-2.815\,040 \times 10^{1}$
b_3 =	3.173 88	5.712 978
b_4 =	$-2.834\,95 \times 10^{-1}$	$-5.102\,907 \times 10^{-1}$
Error Range:	–0.31 °C to +0.15 °C	Error Range: –0.56 °F to +0.27 °F

3.974 mV to 46.008 mV

	250 °C to 1600 °C	482 °F to 2912 °F
b_0 =	$2.877\,08 \times 10^{1}$	$8.378\,749 \times 10^{1}$
b_1 =	$6.405\,77 \times 10^{1}$	$1.153\,039 \times 10^{2}$
b_2 =	–2.583 11	–4.649 604
b_3 =	$1.446\,17 \times 10^{-1}$	$2.603\,107 \times 10^{-1}$
b_4 =	$-6.182\,86 \times 10^{-3}$	$-1.112\,915 \times 10^{-2}$
b_5 =	$1.836\,97 \times 10^{-4}$	$3.306\,541 \times 10^{-4}$
b_6 =	$-3.501\,15 \times 10^{-6}$	$-6.302\,069 \times 10^{-6}$
b_7 =	$3.822\,00 \times 10^{-8}$	$6.879\,607 \times 10^{-8}$
b_8 =	$-1.807\,47 \times 10^{-10}$	$-3.253\,450 \times 10^{-10}$
Error Range:	–0.11 °C to +0.23 °C	Error Range: –0.20 °F to +0.41 °F

TABLE 19 Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of the Thermocouple emf *Continued*

Platinum–40% Rhodium versus Platinum–20% Rhodium

0 mV to 0.376 mV

	0 °C to 510 °C		32 °F to 950 °F
b_0 =	0.000 000	b_0 =	$3.200\,000\,0 \times 10^{1}$
b_1 =	$2.758\,849 \times 10^{3}$	b_1 =	$4.965\,927\,7 \times 10^{3}$
b_2 =	$-8.243\,536 \times 10^{3}$	b_2 =	$-1.483\,836\,5 \times 10^{4}$
b_3 =	$2.161\,278 \times 10^{4}$	b_3 =	$3.890\,299\,8 \times 10^{4}$
b_4 =	$-3.476\,406 \times 10^{4}$	b_4 =	$-6.257\,531\,0 \times 10^{4}$
b_5 =	$2.453\,258 \times 10^{4}$	b_5 =	$4.415\,863\,9 \times 10^{4}$
Error Range:	−0.03 °C to +0.23 °C	Error Range:	−0.05 °F to +0.41 °F

0.376 mV to 4.968 mV

	510 °C to 1888 °C		950 °F to 3430 °F
b_0 =	$1.150\,186 \times 10^{2}$	b_0 =	$2.390\,334\,3 \times 10^{2}$
b_1 =	$1.452\,242 \times 10^{3}$	b_1 =	$2.614\,036\,0 \times 10^{3}$
b_2 =	$-1.423\,688 \times 10^{3}$	b_2 =	$-2.562\,637\,9 \times 10^{3}$
b_3 =	$1.160\,954 \times 10^{3}$	b_3 =	$2.089\,717\,8 \times 10^{3}$
b_4 =	$-6.413\,599 \times 10^{2}$	b_4 =	$-1.154\,447\,8 \times 10^{3}$
b_5 =	$2.359\,053 \times 10^{2}$	b_5 =	$4.246\,294\,7 \times 10^{2}$
b_6 =	$-5.681\,722 \times 10^{1}$	b_6 =	$-1.022\,709\,9 \times 10^{2}$
b_7 =	8.596 334	b_7 =	$1.547\,340\,1 \times 10^{1}$
b_8 =	$-7.404\,421 \times 10^{-1}$	b_8 =	−1.332 795 7
b_9 =	$2.767\,550 \times 10^{-2}$	b_9 =	$4.981\,589\,7 \times 10^{-2}$
Error Range:	−0.17 °C to +0.24 °C	Error Range:	−0.31 °F to +0.43 °F

Nickel–18% Molybdenum versus Nickel–0.8% Cobalt

−1.732 mV to 18.181 mV

	−50 °C to 400 °C		−58 °F to 752 °F
b_0 =	0.000 000	b_0 =	$3.200\,000\,0 \times 10^{1}$
b_1 =	$2.713\,472 \times 10^{1}$	b_1 =	$4.884\,250\,1 \times 10^{1}$
b_2 =	$-8.751\,441 \times 10^{-1}$	b_2 =	−1.575 259 5
b_3 =	$6.127\,531 \times 10^{-2}$	b_3 =	$1.102\,955\,5 \times 10^{-1}$
b_4 =	$-1.811\,496 \times 10^{-3}$	b_4 =	$-3.260\,693\,4 \times 10^{-3}$
b_5 =	$-9.832\,772 \times 10^{-5}$	b_5 =	$-1.769\,898\,9 \times 10^{-4}$
b_6 =	$1.009\,173 \times 10^{-5}$	b_6 =	$1.816\,511\,2 \times 10^{-5}$
b_7 =	$-2.181\,442 \times 10^{-7}$	b_7 =	$-3.926\,595\,5 \times 10^{-7}$
Error Range:	−0.17 °C to +0.28 °C	Error Range:	−0.31 °F to +0.50 °F

18.181 mV to 74.104 mV

	400 °C to 1410 °C		752 °F to 2570 °F
b_0 =	$-1.317\,372 \times 10^{2}$	b_0 =	$-2.051\,268\,9 \times 10^{2}$
b_1 =	$3.768\,395 \times 10^{1}$	b_1 =	$6.783\,111\,6 \times 10^{1}$
b_2 =	$-6.149\,443 \times 10^{-1}$	b_2 =	−1.106 899 8
b_3 =	$9.658\,499 \times 10^{-3}$	b_3 =	$1.738\,529\,8 \times 10^{-2}$
b_4 =	$-8.132\,876 \times 10^{-5}$	b_4 =	$-1.463\,917\,6 \times 10^{-4}$
b_5 =	$2.966\,882 \times 10^{-7}$	b_5 =	$5.340\,387\,8 \times 10^{-7}$
b_6 =	$-8.792\,234 \times 10^{-11}$	b_6 =	$-1.582\,602\,1 \times 10^{-10}$
Error Range:	−0.13 °C to +0.19 °C	Error Range:	−0.23 °F to +0.34 °F

TABLE 19 Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of the Thermocouple emf *Continued*

Iridium–40% Rhodium versus Iridium

0 mV to 11.365 mV

	0 °C to 2110 °C	32 °F to 3830 °F
b_0 =	0.000 000 000 0	$3.200\,000\,000\,00 \times 10^{1}$
b_1 =	$3.127\,832\,359\,3 \times 10^{2}$	$5.630\,098\,246\,66 \times 10^{2}$
b_2 =	$-1.469\,366\,390\,0 \times 10^{2}$	$-2.644\,859\,501\,92 \times 10^{2}$
b_3 =	$9.914\,826\,310\,3 \times 10^{1}$	$1.784\,668\,735\,86 \times 10^{2}$
b_4 =	$-4.638\,179\,460\,9 \times 10^{1}$	$-8.348\,723\,029\,68 \times 10^{1}$
b_5 =	$1.472\,727\,779\,5 \times 10^{1}$	$2.650\,910\,003\,14 \times 10^{1}$
b_6 =	−3.152 936 390 1	−5.675 285 502 26
b_7 =	$4.543\,131\,387\,7 \times 10^{-1}$	$8.177\,636\,497\,79 \times 10^{-1}$
b_8 =	$-4.336\,007\,457\,8 \times 10^{-2}$	$-7.804\,813\,424\,12 \times 10^{-2}$
b_9 =	$2.623\,651\,654\,9 \times 10^{-3}$	$4.722\,572\,978\,89 \times 10^{-3}$
b_{10} =	$-9.103\,075\,333\,9 \times 10^{-5}$	$-1.638\,553\,560\,11 \times 10^{-4}$
b_{11} =	$1.378\,421\,916\,1 \times 10^{-6}$	$2.481\,159\,448\,91 \times 10^{-6}$
Error Range:	−0.48 °C to +0.31 °C	−0.86 °F to +0.56 °F

Gold versus Platinum (thermoelectric voltages in μV)

0 μV to 1953 μV

	0 °C to 209 °C	32 °F to 408.2 °F
b_0 =	0.000 000 0	$3.200\,000\,00 \times 10^{1}$
b_1 =	$1.654\,390\,3 \times 10^{-1}$	$2.977\,902\,55 \times 10^{-1}$
b_2 =	$-8.409\,883\,5 \times 10^{-5}$	$-1.513\,779\,04 \times 10^{-4}$
b_3 =	$8.416\,613\,2 \times 10^{-8}$	$1.514\,990\,38 \times 10^{-7}$
b_4 =	$-7.517\,469\,1 \times 10^{-11}$	$-1.353\,144\,45 \times 10^{-10}$
b_5 =	$4.849\,553\,6 \times 10^{-14}$	$8.729\,196\,47 \times 10^{-14}$
b_6 =	$-2.013\,876\,0 \times 10^{-17}$	$-3.624\,976\,80 \times 10^{-17}$
b_7 =	$4.747\,562\,6 \times 10^{-21}$	$8.545\,612\,59 \times 10^{-21}$
b_8 =	$-4.797\,308\,2 \times 10^{-25}$	$-8.635\,154\,74 \times 10^{-25}$
Error Range:	−0.005 °C to +0.003 °C	−0.009 °F to +0.006 °F

1953 μV to 17085 μV †

$$T = b_0 + \sum_{i=1}^{11} b_i \left\{\frac{E-9645}{7620}\right\}^i$$

	209 °C to 1000 °C	408.2 °F to 1832 °F
b_0 =	$6.763\,360 \times 10^{2}$	$1.249\,404\,7 \times 10^{3}$
b_1 =	$3.735\,504 \times 10^{2}$	$6.723\,907\,5 \times 10^{2}$
b_2 =	$-5.537\,363 \times 10^{1}$	$-9.967\,253\,8 \times 10^{1}$
b_3 =	$1.701\,900 \times 10^{1}$	$3.063\,420\,7 \times 10^{1}$
b_4 =	−6.098 761	$-1.097\,776\,9 \times 10^{1}$
b_5 =	2.457 162	4.422 891 9
b_6 =	−3.385 575	−6.094 035 3
b_7 =	3.853 735	6.936 722 4
b_8 =	1.178 891	2.122 004 1
b_9 =	−2.702 558	−4.864 604 6
b_{10} =	−1.686 158	−3.035 083 9
b_{11} =	1.876 968	3.378 542 1
Error Range:	−0.002 °C to +0.002 °C	−0.004 °F to +0.004 °F

† Editorially corrected.

TABLE 19 Polynomial Coefficients for the Computation of Temperatures in °C or °F as a Function of the Thermocouple emf *Continued*

Platinum versus Palladium

0 µV to 5782.4 µV

	0 °C to 660.323 °C	32 °F to 1220.581 °F
b_0	$1.128\,648\,1 \times 10^{-3}$	$3.200\,203\,16 \times 10^{1}$
b_1	$1.886\,785\,0 \times 10^{-1}$	$3.396\,213\,00 \times 10^{-1}$
b_2	$-3.001\,252\,1 \times 10^{-5}$	$-5.402\,253\,78 \times 10^{-5}$
b_3	$1.846\,873\,7 \times 10^{-8}$	$3.324\,372\,66 \times 10^{-8}$
b_4	$-1.249\,860\,8 \times 10^{-11}$	$-2.249\,749\,44 \times 10^{-11}$
b_5	$5.241\,650\,9 \times 10^{-15}$	$9.434\,971\,62 \times 10^{-15}$
b_6	$-1.391\,528\,6 \times 10^{-18}$	$-2.504\,751\,48 \times 10^{-18}$
b_7	$2.387\,290\,8 \times 10^{-22}$	$4.297\,123\,44 \times 10^{-22}$
b_8	$-2.580\,243\,6 \times 10^{-26}$	$-4.644\,438\,48 \times 10^{-26}$
b_9	$1.601\,881\,9 \times 10^{-30}$	$2.883\,387\,42 \times 10^{-30}$
b_{10}	$-4.360\,816\,6 \times 10^{-35}$	$-7.849\,469\,88 \times 10^{-35}$
Error range:	-0.003 °C to 0.002 °C	-0.005 °F to 0.003 °F

5782.4 µV to 22 932 µV

	660.323 °C to 1500 °C	1220.581 °F to 2732 °F
b_0	$1.314\,565$	$3.436\,621\,7 \times 10^{1}$
b_1	$1.944\,512 \times 10^{-1}$	$3.500\,121\,6 \times 10^{-1}$
b_2	$-2.439\,432 \times 10^{-5}$	$-4.390\,977\,6 \times 10^{-5}$
b_3	$2.735\,961 \times 10^{-9}$	$4.924\,729\,8 \times 10^{-9}$
b_4	$-2.131\,711 \times 10^{-13}$	$-3.837\,079\,8 \times 10^{-13}$
b_5	$1.114\,340 \times 10^{-17}$	$2.005\,812\,0 \times 10^{-17}$
b_6	$-3.715\,739 \times 10^{-22}$	$-6.688\,330\,2 \times 10^{-22}$
b_7	$7.121\,084 \times 10^{-27}$	$1.281\,795\,1 \times 10^{-26}$
b_8	$-5.954\,960 \times 10^{-32}$	$-1.071\,892\,8 \times 10^{-31}$
Error range:	-0.035 °C to 0.025 °C	-0.063 °F to 0.046 °F

8. Keywords

8.1 cobalt; coefficients; gold; iridium; iron; molybdenum; nickel; palladium; platinel; platinum; polynomial; rhenium; rhodium; thermocouple; tungsten