

**ITS-90 Table for Type N Thermocouple (Ref Junction 0°C)**
<http://reotemp.com>

°C	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
<b>Thermoelectric Voltage in mV</b>											
<b>-270</b>	-4.345										
<b>-260</b>	-4.336	-4.337	-4.339	-4.340	-4.341	-4.342	-4.343	-4.344	-4.344	-4.345	-4.345
<b>-250</b>	-4.313	-4.316	-4.319	-4.321	-4.324	-4.326	-4.328	-4.330	-4.332	-4.334	-4.336
<b>-240</b>	-4.277	-4.281	-4.285	-4.289	-4.293	-4.297	-4.300	-4.304	-4.307	-4.310	-4.313
<b>-230</b>	-4.226	-4.232	-4.238	-4.243	-4.248	-4.254	-4.258	-4.263	-4.268	-4.273	-4.277
<b>-220</b>	-4.162	-4.169	-4.176	-4.183	-4.189	-4.196	-4.202	-4.209	-4.215	-4.221	-4.226
<b>-210</b>	-4.083	-4.091	-4.100	-4.108	-4.116	-4.124	-4.132	-4.140	-4.147	-4.154	-4.162
<b>-200</b>	-3.990	-4.000	-4.010	-4.020	-4.029	-4.038	-4.048	-4.057	-4.066	-4.074	-4.083
<b>-190</b>	-3.884	-3.896	-3.907	-3.918	-3.928	-3.939	-3.950	-3.960	-3.970	-3.980	-3.990
<b>-180</b>	-3.766	-3.778	-3.790	-3.803	-3.815	-3.827	-3.838	-3.850	-3.862	-3.873	-3.884
<b>-170</b>	-3.634	-3.648	-3.662	-3.675	-3.688	-3.702	-3.715	-3.728	-3.740	-3.753	-3.766
<b>-160</b>	-3.491	-3.506	-3.521	-3.535	-3.550	-3.564	-3.578	-3.593	-3.607	-3.621	-3.634
<b>-150</b>	-3.336	-3.352	-3.368	-3.384	-3.400	-3.415	-3.431	-3.446	-3.461	-3.476	-3.491
<b>-140</b>	-3.171	-3.188	-3.205	-3.221	-3.238	-3.255	-3.271	-3.288	-3.304	-3.320	-3.336
<b>-130</b>	-2.994	-3.012	-3.030	-3.048	-3.066	-3.084	-3.101	-3.119	-3.136	-3.153	-3.171
<b>-120</b>	-2.808	-2.827	-2.846	-2.865	-2.883	-2.902	-2.921	-2.939	-2.958	-2.976	-2.994
<b>-110</b>	-2.612	-2.632	-2.652	-2.672	-2.691	-2.711	-2.730	-2.750	-2.769	-2.789	-2.808
<b>-100</b>	-2.407	-2.428	-2.448	-2.469	-2.490	-2.510	-2.531	-2.551	-2.571	-2.592	-2.612
<b>-90</b>	-2.193	-2.215	-2.237	-2.258	-2.280	-2.301	-2.322	-2.344	-2.365	-2.386	-2.407
<b>-80</b>	-1.972	-1.995	-2.017	-2.039	-2.062	-2.084	-2.106	-2.128	-2.150	-2.172	-2.193
<b>-70</b>	-1.744	-1.767	-1.790	-1.813	-1.836	-1.859	-1.882	-1.905	-1.927	-1.950	-1.972
<b>-60</b>	-1.509	-1.533	-1.557	-1.580	-1.604	-1.627	-1.651	-1.674	-1.698	-1.721	-1.744
<b>-50</b>	-1.269	-1.293	-1.317	-1.341	-1.366	-1.390	-1.414	-1.438	-1.462	-1.485	-1.509
<b>-40</b>	-1.023	-1.048	-1.072	-1.097	-1.122	-1.146	-1.171	-1.195	-1.220	-1.244	-1.269
<b>-30</b>	-0.772	-0.798	-0.823	-0.848	-0.873	-0.898	-0.923	-0.948	-0.973	-0.998	-1.023
<b>-20</b>	-0.518	-0.544	-0.569	-0.595	-0.620	-0.646	-0.671	-0.696	-0.722	-0.747	-0.772
<b>-10</b>	-0.260	-0.286	-0.312	-0.338	-0.364	-0.390	-0.415	-0.441	-0.467	-0.492	-0.518
<b>0</b>	0.000	-0.026	-0.052	-0.078	-0.104	-0.131	-0.157	-0.183	-0.209	-0.234	-0.260
°C	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10

°C	0	1	2	3	4	5	6	7	8	9	10
<b>Thermoelectric Voltage in mV</b>											
<b>0</b>	0.000	0.026	0.052	0.078	0.104	0.130	0.156	0.182	0.208	0.235	0.261
<b>10</b>	0.261	0.287	0.313	0.340	0.366	0.393	0.419	0.446	0.472	0.499	0.525
<b>20</b>	0.525	0.552	0.578	0.605	0.632	0.659	0.685	0.712	0.739	0.766	0.793
<b>30</b>	0.793	0.820	0.847	0.874	0.901	0.928	0.955	0.983	1.010	1.037	1.065
<b>40</b>	1.065	1.092	1.119	1.147	1.174	1.202	1.229	1.257	1.284	1.312	1.340
<b>50</b>	1.340	1.368	1.395	1.423	1.451	1.479	1.507	1.535	1.563	1.591	1.619
<b>60</b>	1.619	1.647	1.675	1.703	1.732	1.760	1.788	1.817	1.845	1.873	1.902
<b>70</b>	1.902	1.930	1.959	1.988	2.016	2.045	2.074	2.102	2.131	2.160	2.189
<b>80</b>	2.189	2.218	2.247	2.276	2.305	2.334	2.363	2.392	2.421	2.450	2.480
<b>90</b>	2.480	2.509	2.538	2.568	2.597	2.626	2.656	2.685	2.715	2.744	2.774
<b>100</b>	2.774	2.804	2.833	2.863	2.893	2.923	2.953	2.983	3.012	3.042	3.072
<b>110</b>	3.072	3.102	3.133	3.163	3.193	3.223	3.253	3.283	3.314	3.344	3.374
<b>120</b>	3.374	3.405	3.435	3.466	3.496	3.527	3.557	3.588	3.619	3.649	3.680
<b>130</b>	3.680	3.711	3.742	3.772	3.803	3.834	3.865	3.896	3.927	3.958	3.989
<b>140</b>	3.989	4.020	4.051	4.083	4.114	4.145	4.176	4.208	4.239	4.270	4.302
<b>150</b>	4.302	4.333	4.365	4.396	4.428	4.459	4.491	4.523	4.554	4.586	4.618
<b>160</b>	4.618	4.650	4.681	4.713	4.745	4.777	4.809	4.841	4.873	4.905	4.937
<b>170</b>	4.937	4.969	5.001	5.033	5.066	5.098	5.130	5.162	5.195	5.227	5.259
<b>180</b>	5.259	5.292	5.324	5.357	5.389	5.422	5.454	5.487	5.520	5.552	5.585
<b>190</b>	5.585	5.618	5.650	5.683	5.716	5.749	5.782	5.815	5.847	5.880	5.913
<b>200</b>	5.913	5.946	5.979	6.013	6.046	6.079	6.112	6.145	6.178	6.211	6.245
<b>210</b>	6.245	6.278	6.311	6.345	6.378	6.411	6.445	6.478	6.512	6.545	6.579
<b>220</b>	6.579	6.612	6.646	6.680	6.713	6.747	6.781	6.814	6.848	6.882	6.916
<b>230</b>	6.916	6.949	6.983	7.017	7.051	7.085	7.119	7.153	7.187	7.221	7.255
<b>240</b>	7.255	7.289	7.323	7.357	7.392	7.426	7.460	7.494	7.528	7.563	7.597
<b>250</b>	7.597	7.631	7.666	7.700	7.734	7.769	7.803	7.838	7.872	7.907	7.941
<b>260</b>	7.941	7.976	8.010	8.045	8.080	8.114	8.149	8.184	8.218	8.253	8.288
<b>270</b>	8.288	8.323	8.358	8.392	8.427	8.462	8.497	8.532	8.567	8.602	8.637
<b>280</b>	8.637	8.672	8.707	8.742	8.777	8.812	8.847	8.882	8.918	8.953	8.988
<b>290</b>	8.988	9.023	9.058	9.094	9.129	9.164	9.200	9.235	9.270	9.306	9.341
<b>300</b>	9.341	9.377	9.412	9.448	9.483	9.519	9.554	9.590	9.625	9.661	9.696
<b>310</b>	9.696	9.732	9.768	9.803	9.839	9.875	9.910	9.946	9.982	10.018	10.054
<b>320</b>	10.054	10.089	10.125	10.161	10.197	10.233	10.269	10.305	10.341	10.377	10.413
<b>330</b>	10.413	10.449	10.485	10.521	10.557	10.593	10.629	10.665	10.701	10.737	10.774
<b>340</b>	10.774	10.810	10.846	10.882	10.918	10.955	10.991	11.027	11.064	11.100	11.136
<b>350</b>	11.136	11.173	11.209	11.245	11.282	11.318	11.355	11.391	11.428	11.464	11.501
<b>360</b>	11.501	11.537	11.574	11.610	11.647	11.683	11.720	11.757	11.793	11.830	11.867
<b>370</b>	11.867	11.903	11.940	11.977	12.013	12.050	12.087	12.124	12.160	12.197	12.234
<b>380</b>	12.234	12.271	12.308	12.345	12.382	12.418	12.455	12.492	12.529	12.566	12.603
<b>390</b>	12.603	12.640	12.677	12.714	12.751	12.788	12.825	12.862	12.899	12.937	12.974
°C	0	1	2	3	4	5	6	7	8	9	10

°C	0	1	2	3	4	5	6	7	8	9	10
<b>Thermoelectric Voltage in mV</b>											
<b>400</b>	12.974	13.011	13.048	13.085	13.122	13.159	13.197	13.234	13.271	13.308	13.346
<b>410</b>	13.346	13.383	13.420	13.457	13.495	13.532	13.569	13.607	13.644	13.682	13.719
<b>420</b>	13.719	13.756	13.794	13.831	13.869	13.906	13.944	13.981	14.019	14.056	14.094
<b>430</b>	14.094	14.131	14.169	14.206	14.244	14.281	14.319	14.356	14.394	14.432	14.469
<b>440</b>	14.469	14.507	14.545	14.582	14.620	14.658	14.695	14.733	14.771	14.809	14.846
<b>450</b>	14.846	14.884	14.922	14.960	14.998	15.035	15.073	15.111	15.149	15.187	15.225
<b>460</b>	15.225	15.262	15.300	15.338	15.376	15.414	15.452	15.490	15.528	15.566	15.604
<b>470</b>	15.604	15.642	15.680	15.718	15.756	15.794	15.832	15.870	15.908	15.946	15.984
<b>480</b>	15.984	16.022	16.060	16.099	16.137	16.175	16.213	16.251	16.289	16.327	16.366
<b>490</b>	16.366	16.404	16.442	16.480	16.518	16.557	16.595	16.633	16.671	16.710	16.748
<b>500</b>	16.748	16.786	16.824	16.863	16.901	16.939	16.978	17.016	17.054	17.093	17.131
<b>510</b>	17.131	17.169	17.208	17.246	17.285	17.323	17.361	17.400	17.438	17.477	17.515
<b>520</b>	17.515	17.554	17.592	17.630	17.669	17.707	17.746	17.784	17.823	17.861	17.900
<b>530</b>	17.900	17.938	17.977	18.016	18.054	18.093	18.131	18.170	18.208	18.247	18.286
<b>540</b>	18.286	18.324	18.363	18.401	18.440	18.479	18.517	18.556	18.595	18.633	18.672
<b>550</b>	18.672	18.711	18.749	18.788	18.827	18.865	18.904	18.943	18.982	19.020	19.059
<b>560</b>	19.059	19.098	19.136	19.175	19.214	19.253	19.292	19.330	19.369	19.408	19.447
<b>570</b>	19.447	19.485	19.524	19.563	19.602	19.641	19.680	19.718	19.757	19.796	19.835
<b>580</b>	19.835	19.874	19.913	19.952	19.990	20.029	20.068	20.107	20.146	20.185	20.224
<b>590</b>	20.224	20.263	20.302	20.341	20.379	20.418	20.457	20.496	20.535	20.574	20.613
<b>600</b>	20.613	20.652	20.691	20.730	20.769	20.808	20.847	20.886	20.925	20.964	21.003
<b>610</b>	21.003	21.042	21.081	21.120	21.159	21.198	21.237	21.276	21.315	21.354	21.393
<b>620</b>	21.393	21.432	21.471	21.510	21.549	21.588	21.628	21.667	21.706	21.745	21.784
<b>630</b>	21.784	21.823	21.862	21.901	21.940	21.979	22.018	22.058	22.097	22.136	22.175
<b>640</b>	22.175	22.214	22.253	22.292	22.331	22.370	22.410	22.449	22.488	22.527	22.566
<b>650</b>	22.566	22.605	22.644	22.684	22.723	22.762	22.801	22.840	22.879	22.919	22.958
<b>660</b>	22.958	22.997	23.036	23.075	23.115	23.154	23.193	23.232	23.271	23.311	23.350
<b>670</b>	23.350	23.389	23.428	23.467	23.507	23.546	23.585	23.624	23.663	23.703	23.742
<b>680</b>	23.742	23.781	23.820	23.860	23.899	23.938	23.977	24.016	24.056	24.095	24.134
<b>690</b>	24.134	24.173	24.213	24.252	24.291	24.330	24.370	24.409	24.448	24.487	24.527
<b>700</b>	24.527	24.566	24.605	24.644	24.684	24.723	24.762	24.801	24.841	24.880	24.919
<b>710</b>	24.919	24.959	24.998	25.037	25.076	25.116	25.155	25.194	25.233	25.273	25.312
<b>720</b>	25.312	25.351	25.391	25.430	25.469	25.508	25.548	25.587	25.626	25.666	25.705
<b>730</b>	25.705	25.744	25.783	25.823	25.862	25.901	25.941	25.980	26.019	26.058	26.098
<b>740</b>	26.098	26.137	26.176	26.216	26.255	26.294	26.333	26.373	26.412	26.451	26.491
<b>750</b>	26.491	26.530	26.569	26.608	26.648	26.687	26.726	26.766	26.805	26.844	26.883
<b>760</b>	26.883	26.923	26.962	27.001	27.041	27.080	27.119	27.158	27.198	27.237	27.276
<b>770</b>	27.276	27.316	27.355	27.394	27.433	27.473	27.512	27.551	27.591	27.630	27.669
<b>780</b>	27.669	27.708	27.748	27.787	27.826	27.866	27.905	27.944	27.983	28.023	28.062
<b>790</b>	28.062	28.101	28.140	28.180	28.219	28.258	28.297	28.337	28.376	28.415	28.455
<b>800</b>	28.455	28.494	28.533	28.572	28.612	28.651	28.690	28.729	28.769	28.808	28.847
<b>810</b>	28.847	28.886	28.926	28.965	29.004	29.043	29.083	29.122	29.161	29.200	29.239
<b>820</b>	29.239	29.279	29.318	29.357	29.396	29.436	29.475	29.514	29.553	29.592	29.632
<b>830</b>	29.632	29.671	29.710	29.749	29.789	29.828	29.867	29.906	29.945	29.985	30.024
<b>840</b>	30.024	30.063	30.102	30.141	30.181	30.220	30.259	30.298	30.337	30.376	30.416
°C	0	1	2	3	4	5	6	7	8	9	10

°C	0	1	2	3	4	5	6	7	8	9	10
<b>Thermoelectric Voltage in mV</b>											
<b>850</b>	30.416	30.455	30.494	30.533	30.572	30.611	30.651	30.690	30.729	30.768	30.807
<b>860</b>	30.807	30.846	30.886	30.925	30.964	31.003	31.042	31.081	31.120	31.160	31.199
<b>870</b>	31.199	31.238	31.277	31.316	31.355	31.394	31.433	31.473	31.512	31.551	31.590
<b>880</b>	31.590	31.629	31.668	31.707	31.746	31.785	31.824	31.863	31.903	31.942	31.981
<b>890</b>	31.981	32.020	32.059	32.098	32.137	32.176	32.215	32.254	32.293	32.332	32.371
<b>900</b>	32.371	32.410	32.449	32.488	32.527	32.566	32.605	32.644	32.683	32.722	32.761
<b>910</b>	32.761	32.800	32.839	32.878	32.917	32.956	32.995	33.034	33.073	33.112	33.151
<b>920</b>	33.151	33.190	33.229	33.268	33.307	33.346	33.385	33.424	33.463	33.502	33.541
<b>930</b>	33.541	33.580	33.619	33.658	33.697	33.736	33.774	33.813	33.852	33.891	33.930
<b>940</b>	33.930	33.969	34.008	34.047	34.086	34.124	34.163	34.202	34.241	34.280	34.319
<b>950</b>	34.319	34.358	34.396	34.435	34.474	34.513	34.552	34.591	34.629	34.668	34.707
<b>960</b>	34.707	34.746	34.785	34.823	34.862	34.901	34.940	34.979	35.017	35.056	35.095
<b>970</b>	35.095	35.134	35.172	35.211	35.250	35.289	35.327	35.366	35.405	35.444	35.482
<b>980</b>	35.482	35.521	35.560	35.598	35.637	35.676	35.714	35.753	35.792	35.831	35.869
<b>990</b>	35.869	35.908	35.946	35.985	36.024	36.062	36.101	36.140	36.178	36.217	36.256
<b>1020</b>	37.027	37.065	37.104	37.142	37.181	37.219	37.258	37.296	37.334	37.373	37.411
<b>1030</b>	37.411	37.450	37.488	37.527	37.565	37.603	37.642	37.680	37.719	37.757	37.795
<b>1040</b>	37.795	37.834	37.872	37.911	37.949	37.987	38.026	38.064	38.102	38.141	38.179
<b>1050</b>	38.179	38.217	38.256	38.294	38.332	38.370	38.409	38.447	38.485	38.524	38.562
<b>1060</b>	38.562	38.600	38.638	38.677	38.715	38.753	38.791	38.829	38.868	38.906	38.944
<b>1070</b>	38.944	38.982	39.020	39.059	39.097	39.135	39.173	39.211	39.249	39.287	39.326
<b>1080</b>	39.326	39.364	39.402	39.440	39.478	39.516	39.554	39.592	39.630	39.668	39.706
<b>1090</b>	39.706	39.744	39.783	39.821	39.859	39.897	39.935	39.973	40.011	40.049	40.087
<b>1100</b>	40.087	40.125	40.163	40.201	40.238	40.276	40.314	40.352	40.390	40.428	40.466
<b>1110</b>	40.466	40.504	40.542	40.580	40.618	40.655	40.693	40.731	40.769	40.807	40.845
<b>1120</b>	40.845	40.883	40.920	40.958	40.996	41.034	41.072	41.109	41.147	41.185	41.223
<b>1130</b>	41.223	41.260	41.298	41.336	41.374	41.411	41.449	41.487	41.525	41.562	41.600
<b>1140</b>	41.600	41.638	41.675	41.713	41.751	41.788	41.826	41.864	41.901	41.939	41.976
<b>1150</b>	41.976	42.014	42.052	42.089	42.127	42.164	42.202	42.239	42.277	42.314	42.352
<b>1160</b>	42.352	42.390	42.427	42.465	42.502	42.540	42.577	42.614	42.652	42.689	42.727
<b>1170</b>	42.727	42.764	42.802	42.839	42.877	42.914	42.951	42.989	43.026	43.064	43.101
<b>1180</b>	43.101	43.138	43.176	43.213	43.250	43.288	43.325	43.362	43.399	43.437	43.474
<b>1190</b>	43.474	43.511	43.549	43.586	43.623	43.660	43.698	43.735	43.772	43.809	43.846
<b>1200</b>	43.846	43.884	43.921	43.958	43.995	44.032	44.069	44.106	44.144	44.181	44.218
<b>1210</b>	44.218	44.255	44.292	44.329	44.366	44.403	44.440	44.477	44.514	44.551	44.588
<b>1220</b>	44.588	44.625	44.662	44.699	44.736	44.773	44.810	44.847	44.884	44.921	44.958
<b>1230</b>	44.958	44.995	45.032	45.069	45.105	45.142	45.179	45.216	45.253	45.290	45.326
<b>1240</b>	45.326	45.363	45.400	45.437	45.474	45.510	45.547	45.584	45.621	45.657	45.694
<b>1250</b>	45.694	45.731	45.767	45.804	45.841	45.877	45.914	45.951	45.987	46.024	46.060
<b>1260</b>	46.060	46.097	46.133	46.170	46.207	46.243	46.280	46.316	46.353	46.389	46.425
<b>1270</b>	46.425	46.462	46.498	46.535	46.571	46.608	46.644	46.680	46.717	46.753	46.789
<b>1280</b>	46.789	46.826	46.862	46.898	46.935	46.971	47.007	47.043	47.079	47.116	47.152
<b>1290</b>	47.152	47.188	47.224	47.260	47.296	47.333	47.369	47.405	47.441	47.477	47.513
<b>1300</b>	47.513										
°C	0	1	2	3	4	5	6	7	8	9	10