

MAXIMUM TEMPERATURE RANGE

Thermocouple Grade

- 450 to 2372°F

- 270 to 1300°C

Extension Grade

32 to 392°F

0 to 200°C

LIMITS OF ERROR

(whichever is greater)

Standard: 2.2°C or 0.75% Above 0°C

2.2°C or 2.0% Below 0°C

Special: 1.1°C or 0.4%

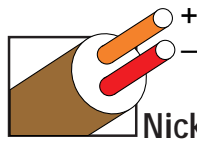
COMMENTS, BARE WIRE ENVIRONMENT:

Alternative to Type K; More Stable

at High Temperatures

TEMPERATURE IN DEGREES °F

REFERENCE JUNCTION AT 32°F



Thermocouple Grade

Nickel-14.2% Chromium-1.4% Silicon

vs.

Nickel-4.4% Silicon-0.1% Magnesium



Extension Grade

Revised Thermocouple Reference Tables

TYPE N Reference Tables N.I.S.T. Monograph 175 Revised to ITS-90



Thermoelectric Voltage in Millivolts

Table with 11 columns (°F 0-10, °F) and 11 rows of thermoelectric voltage data for Type N thermocouples.

Table with 11 columns (°F 0-10, °F) and 11 rows of thermoelectric voltage data for Type N thermocouples, continuing from the previous table.

Z

Revised Thermocouple Reference Tables

TYPE N

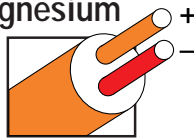
Reference Tables
N.I.S.T.
Monograph 175
Revised to
ITS-90



Thermocouple Grade

Nickel-14.2% Chromium-1.4% Silicon

vs.
Nickel-4.4% Silicon-0.1% Magnesium



Extension Grade

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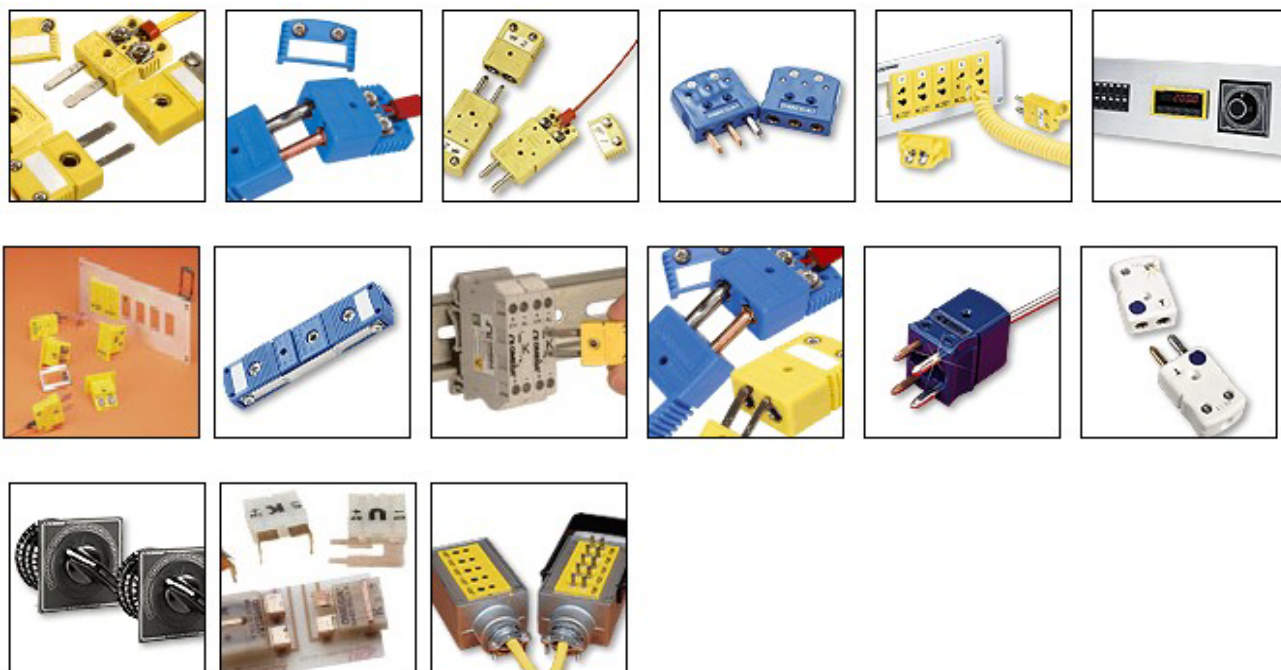
COMMENTS, BARE WIRE ENVIRONMENT:
Alternative to Type K; More Stable at High Temperatures

TEMPERATURE IN DEGREES °F REFERENCE JUNCTION AT 32°F

Thermoelectric Voltage in Millivolts

| °F | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | °F | °F | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | °F |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| 1900 | 37.710 | 37.731 | 37.753 | 37.774 | 37.795 | 37.817 | 37.838 | 37.859 | 37.881 | 37.902 | 37.923 | 1900 | 2150 | 42.976 | 42.997 | 43.018 | 43.039 | 43.059 | 43.080 | 43.101 | 43.122 | 43.142 | 43.163 | 43.184 | 2150 |
| 1910 | 37.923 | 37.945 | 37.966 | 37.987 | 38.009 | 38.030 | 38.051 | 38.073 | 38.094 | 38.115 | 38.136 | 1910 | 2160 | 43.184 | 43.205 | 43.225 | 43.246 | 43.267 | 43.288 | 43.308 | 43.329 | 43.350 | 43.370 | 43.391 | 2160 |
| 1920 | 38.136 | 38.158 | 38.179 | 38.200 | 38.222 | 38.243 | 38.264 | 38.285 | 38.307 | 38.328 | 38.349 | 1920 | 2170 | 43.391 | 43.412 | 43.433 | 43.453 | 43.474 | 43.495 | 43.515 | 43.536 | 43.557 | 43.578 | 43.598 | 2170 |
| 1930 | 38.349 | 38.370 | 38.392 | 38.413 | 38.434 | 38.456 | 38.477 | 38.498 | 38.519 | 38.541 | 38.562 | 1930 | 2180 | 43.598 | 43.619 | 43.640 | 43.660 | 43.681 | 43.702 | 43.722 | 43.743 | 43.764 | 43.784 | 43.805 | 2180 |
| 1940 | 38.562 | 38.583 | 38.604 | 38.626 | 38.647 | 38.668 | 38.689 | 38.711 | 38.732 | 38.753 | 38.774 | 1940 | 2190 | 43.805 | 43.826 | 43.846 | 43.867 | 43.888 | 43.908 | 43.929 | 43.950 | 43.970 | 43.991 | 43.012 | 2190 |
| 1950 | 38.774 | 38.795 | 38.817 | 38.838 | 38.859 | 38.880 | 38.902 | 38.923 | 38.944 | 38.965 | 38.986 | 1950 | 2200 | 44.012 | 44.032 | 44.053 | 44.073 | 44.094 | 44.115 | 44.135 | 44.156 | 44.177 | 44.197 | 44.218 | 2200 |
| 1960 | 38.986 | 39.008 | 39.029 | 39.050 | 39.071 | 39.093 | 39.114 | 39.135 | 39.156 | 39.177 | 39.198 | 1960 | 2210 | 44.218 | 44.238 | 44.259 | 44.280 | 44.300 | 44.321 | 44.341 | 44.362 | 44.383 | 44.403 | 44.424 | 2210 |
| 1970 | 39.198 | 39.220 | 39.241 | 39.262 | 39.283 | 39.304 | 39.326 | 39.347 | 39.368 | 39.389 | 39.410 | 1970 | 2220 | 44.424 | 44.444 | 44.465 | 44.485 | 44.506 | 44.527 | 44.547 | 44.568 | 44.588 | 44.609 | 44.629 | 2220 |
| 1980 | 39.410 | 39.431 | 39.453 | 39.474 | 39.495 | 39.516 | 39.537 | 39.558 | 39.580 | 39.601 | 39.622 | 1980 | 2230 | 44.629 | 44.650 | 44.671 | 44.691 | 44.712 | 44.732 | 44.753 | 44.773 | 44.794 | 44.814 | 44.835 | 2230 |
| 1990 | 39.622 | 39.643 | 39.664 | 39.685 | 39.706 | 39.728 | 39.749 | 39.770 | 39.791 | 39.812 | 39.833 | 1990 | 2240 | 44.835 | 44.855 | 44.876 | 44.896 | 44.917 | 44.937 | 44.958 | 44.978 | 44.999 | 45.019 | 45.040 | 2240 |
| 2000 | 39.833 | 39.854 | 39.875 | 39.897 | 39.918 | 39.939 | 39.960 | 39.981 | 40.002 | 40.023 | 40.044 | 2000 | 2250 | 45.040 | 45.060 | 45.081 | 45.101 | 45.122 | 45.142 | 45.163 | 45.183 | 45.204 | 45.224 | 45.245 | 2250 |
| 2010 | 40.044 | 40.066 | 40.087 | 40.108 | 40.129 | 40.150 | 40.171 | 40.192 | 40.213 | 40.234 | 40.255 | 2010 | 2260 | 45.245 | 45.265 | 45.286 | 45.306 | 45.326 | 45.347 | 45.367 | 45.388 | 45.408 | 45.429 | 45.449 | 2260 |
| 2020 | 40.255 | 40.276 | 40.297 | 40.319 | 40.340 | 40.361 | 40.382 | 40.403 | 40.424 | 40.445 | 40.466 | 2020 | 2270 | 45.449 | 45.469 | 45.490 | 45.510 | 45.531 | 45.551 | 45.572 | 45.592 | 45.612 | 45.633 | 45.653 | 2270 |
| 2030 | 40.466 | 40.487 | 40.508 | 40.529 | 40.550 | 40.571 | 40.592 | 40.613 | 40.634 | 40.655 | 40.677 | 2030 | 2280 | 45.653 | 45.674 | 45.694 | 45.714 | 45.735 | 45.755 | 45.775 | 45.796 | 45.816 | 45.837 | 45.857 | 2280 |
| 2040 | 40.677 | 40.698 | 40.719 | 40.740 | 40.761 | 40.782 | 40.803 | 40.824 | 40.845 | 40.866 | 40.887 | 2040 | 2290 | 45.857 | 45.877 | 45.898 | 45.918 | 45.938 | 45.959 | 45.979 | 45.999 | 46.020 | 46.040 | 46.060 | 2290 |
| 2050 | 40.887 | 40.908 | 40.929 | 40.950 | 40.971 | 40.992 | 41.013 | 41.034 | 41.055 | 41.076 | 41.097 | 2050 | 2300 | 46.060 | 46.081 | 46.101 | 46.121 | 46.142 | 46.162 | 46.182 | 46.202 | 46.223 | 46.243 | 46.263 | 2300 |
| 2060 | 41.097 | 41.118 | 41.139 | 41.160 | 41.181 | 41.202 | 41.223 | 41.244 | 41.265 | 41.286 | 41.307 | 2060 | 2310 | 46.263 | 46.284 | 46.304 | 46.324 | 46.344 | 46.365 | 46.385 | 46.405 | 46.425 | 46.446 | 46.466 | 2310 |
| 2070 | 41.307 | 41.328 | 41.349 | 41.370 | 41.390 | 41.411 | 41.432 | 41.453 | 41.474 | 41.495 | 41.516 | 2070 | 2320 | 46.466 | 46.486 | 46.506 | 46.527 | 46.547 | 46.567 | 46.587 | 46.608 | 46.628 | 46.648 | 46.668 | 2320 |
| 2080 | 41.516 | 41.537 | 41.558 | 41.579 | 41.600 | 41.621 | 41.642 | 41.663 | 41.684 | 41.705 | 41.725 | 2080 | 2330 | 46.668 | 46.688 | 46.709 | 46.729 | 46.749 | 46.769 | 46.789 | 46.810 | 46.830 | 46.850 | 46.870 | 2330 |
| 2090 | 41.725 | 41.746 | 41.767 | 41.788 | 41.809 | 41.830 | 41.851 | 41.872 | 41.893 | 41.914 | 41.935 | 2090 | 2340 | 48.870 | 48.890 | 48.910 | 48.931 | 48.951 | 48.971 | 48.991 | 49.011 | 49.031 | 49.051 | 49.071 | 2340 |
| 2100 | 41.935 | 41.955 | 41.976 | 41.997 | 42.018 | 42.039 | 42.060 | 42.081 | 42.102 | 42.123 | 42.143 | 2100 | 2350 | 47.071 | 47.092 | 47.112 | 47.132 | 47.152 | 47.172 | 47.192 | 47.212 | 47.232 | 47.252 | 47.272 | 2350 |
| 2110 | 42.143 | 42.164 | 42.185 | 42.206 | 42.227 | 42.248 | 42.269 | 42.289 | 42.310 | 42.331 | 42.352 | 2110 | 2360 | 47.272 | 47.292 | 47.312 | 47.333 | 47.353 | 47.373 | 47.393 | 47.413 | 47.433 | 47.453 | 47.473 | 2360 |
| 2120 | 42.352 | 42.373 | 42.394 | 42.415 | 42.435 | 42.456 | 42.477 | 42.498 | 42.519 | 42.540 | 42.560 | 2120 | 2370 | 47.473 | 47.493 | 47.513 | | | | | | | | | 2370 |
| 2130 | 42.560 | 42.581 | 42.602 | 42.623 | 42.644 | 42.664 | 42.685 | 42.706 | 42.727 | 42.748 | 42.768 | 2130 | | | | | | | | | | | | | |
| 2140 | 42.768 | 42.789 | 42.810 | 42.831 | 42.852 | 42.872 | 42.893 | 42.914 | 42.935 | 42.956 | 42.976 | 2140 | | | | | | | | | | | | | |

一: [Omega热电偶连接器](#)



二: [Omega热电偶线及热电偶补偿导线](#)



三: [Omega热电偶](#)



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