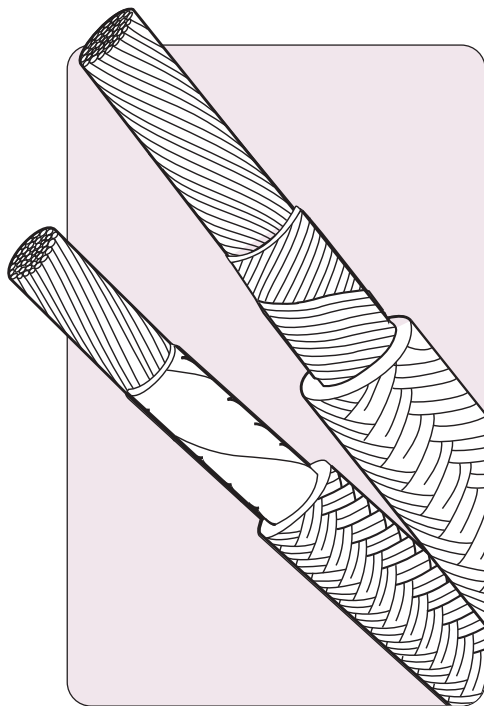


Heater Hookup Wire Technical Data



Additional heater hook-up wire available. Visit omega.com for more details.

| Current Carrying Capacity Base Temperature at 40°C (104°F) (Values tabulated are In Amperes) | | | | | | |
|--|----------------|---------------|---------------|---------------|---------------|---------------|
| Wire Gage, AWG | Conductor Type | | | | | |
| | 200°C (390°F) | 250°C (480°F) | 250°C (480°F) | 250°C (480°F) | 450°C (840°F) | 450°C (840°F) |
| | tc, npc | npc-7% | A-nickel | npi | npc-27% | A-nickel |
| 24 | 7.2 | 8.0 | 4.0 | 3.3 | 9.0 | 4.3 |
| 22 | 9.6 | 10.8 | 5.0 | 4.4 | 12.0 | 5.6 |
| 20 | 14.0 | 15.0 | 7.0 | 6.0 | 18.0 | 8.0 |
| 18 | 18.0 | 20.0 | 9.4 | 8.0 | 23.0 | 11.0 |
| 16 | 24.0 | 26.0 | 12.0 | 11.0 | 30.0 | 14.0 |
| 14 | 36.0 | 39.0 | 18.0 | 16.0 | 45.0 | 21.0 |
| 12 | 45.0 | 49.0 | 23.0 | 20.0 | 56.0 | 26.0 |
| 10 | 60.0 | 66.0 | 31.0 | 27.0 | 75.0 | 35.0 |
| 8 | 83.0 | 91.0 | | | 104.0 | 49.0 |
| 6 | 110.0 | 121.0 | | | 138.0 | 65.0 |

The use of this table for establishing ampacity ratings is an inexact procedure. This table should only be used as a starting point when establishing ratings for any given situation. Values may be lesser or greater than those given in the table because of the influence of installation method, environment, number of conductors, conductor composition and size, ambient temperatures, insulation types, etc. It is recommended that design engineers desiring accurate ampacity data closely study the 1990 National Electrical Code Handbook Article 310-15-310-84. Additional information can be derived from AIEE, paper number 57-660, "The calculation of the temperature rise and load capability of cable systems" by J. H. Neher and M. H. McGrath. This paper was presented to the AIEE general meeting in Montreal, Quebec, Canada on June 24-28, 1956 and was published in the "AIEE transactions," part 3 (power apparatus and systems), Volume 76, October, 1957, pp. 752-772.

Conductor Types:

- tc = tinned copper
- npc = nickel plated copper
- npi = nickel plated iron
- A-nickel = Type 'A' 100% nickel

| Temperature Correction Factors For ambient temperatures other than 40°C (100°F), multiply the ampacities shown above by the appropriate factor shown below | | | | |
|---|-------------------|-------------------------|---------------|---------------|
| Ambient °C | Temperature °F | Wire Temperature Rating | | |
| | | 200°C (390°F) | 250°C (480°F) | 450°C (840°F) |
| 41 to 50 | 106 to 122 | 0.97 | 0.98 | 0.99 |
| 51 to 60 | 124 to 140 | 0.94 | 0.95 | 0.99 |
| 61 to 70 | 142 to 158 | 0.90 | 0.93 | 0.96 |
| 71 to 80 | 160 to 176 | 0.87 | 0.90 | 0.95 |
| 81 to 90 | 177 to 194 | 0.83 | 0.87 | 0.93 |
| 91 to 100 | 195 to 212 | 0.72 | 0.85 | 0.92 |
| 101 to 120 | 213 to 248 | 0.71 | 0.79 | 0.89 |
| 121 to 140 | 249 to 284 | 0.61 | 0.71 | 0.86 |
| 141 to 160 | 285 to 320 | 0.50 | 0.65 | 0.84 |
| 161 to 180 | 321 to 356 | 0.35 | 0.58 | 0.81 |
| 181 to 200 | 357 to 392 | - | 0.49 | 0.78 |
| 201 to 225 | 393 to 437 | - | 0.35 | 0.74 |
| 226 to 250 | 439 to 482 | - | - | 0.69 |
| 251 to 275 | 483 to 527 | - | - | 0.65 |
| 276 to 300 | 528 to 572 | - | - | 0.60 |
| 301 to 325 | 573 to 617 | - | - | 0.55 |
| 326 to 350 | 618 to 662 | - | - | 0.49 |
| 351 to 375 | 663 to 707 | - | - | 0.42 |
| 376 to 400 | 708 to 752 | - | - | 0.34 |

Example: The current carrying capacity (ampacity) rating of a 16 AWG 200°C npc conductor at 40°C is 24.0 A.





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