



# Technical

## Wire, Cable and Current Capacities

### Guide to High Temperature Wire and Cable

#### Common Wire and Cable Abbreviations

- AWM** – Appliance Wiring Material.
- MGT** – Stranded nickel conductor, mica, glass, and teflon - 450°C
- MTW** – Thermoplastic insulated machine tool wire.
- SF** – Silicone rubber insulated fixture wire, solid or 7/strand conductor, 200°C.
- SFF** – Same as SF, except flexible stranding 150°C.
- SPT-1** – Thermoplastic 300volt two conductor light cord 300 volt.
  - 2** – Same only heavier construction
  - 3** – Same only still heavier construction (refrigerators/room air conditioners)
- TBS** – Switchboard wire, thermoplastic insulation, flameproof cotton braid, 600 Volt, 90°C.
- TEW** – CSA type appliance wire solid or stranded plastic insulated, 600 Volt, 150°C.
- TF** – Thermoplastic solid or 7/strand fixture wire 60°C.
- TFF** – Same as TF only flexible stranding 60°C
- TGS** – Solid or flexible copper, nickel-clad iron or copper, or nickel conductor. Teflon tape, silicone glass braid, 600 Volt, 250°C.
- TGGT** – Stranded nickel conductor, teflon, glass, teflon-250°C.

### Approximate Current Carrying Capacities For Fiberglass Insulated Copper, Nickel Clad Copper, and Nickel (Grade D) Based on Ambient Temperature or 86°F.

Conductor Size (AWG)	Copper	Ni-Clad Copper	Nickel
24	7.5	5.3	3.1
22	10	7.0	4.1
20	13	9.1	5.4
18	17	11.9	7.1
16	22	15.4	9.2
14	30	21.0	12.5
12	40	28	16.8
10	50	35	21.0
8	65	45.5	27.0
6	85	59.5	36.0
4	115	80.5	48.0
3	131	91.7	55.0
2	147	103.0	62.0
1	172	120.4	72.0

### Approximate Current Carrying Capacities of Copper Conductors in Amperes (not more than three conductors in cable)

Based on Ambient Temperature of 30°C

Size (AWG)	Rubber Type R Type RW type RU	Rubber Type RII	Thermoplastic Type I Type IW
14	15	15	15
12	20	20	20
10	30	30	30
8	40	45	40
6	55	65	55
4	70	85	70
3	80	100	80
2	95	115	95
1	110	130	110
0	125	150	125
00	145	175	145