



## TFN/TFFN Copper

600 Volt. Copper Conductor. PVC Insulation/Nylon Sheath. Heat, Moisture, Oil, and Gasoline Resistant II. Also Rated MTW and AWM.



See Table 3 For Other Color Options



Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

- Conductor:** Solid soft drawn bare copper per ASTM B3 for TFN. Class K bunch-stranded soft drawn bare copper per ASTM B174 for TFFN.
- Insulation:** Heat and moisture resistant PVC
- Sheath:** Nylon

### APPLICATIONS AND FEATURES:

#### APPLICATION

Southwire Type TFN/TFFN or MTW or AWM may be used as fixture wire, machine tool wiring, or appliance wiring material as specified in the National Electrical Code® and other applicable codes and standards. Voltage for all applications is 600 volts. Allowable temperatures are as follows:

- TFN/TFFN- Dry locations not to exceed 90°C
- AWM- When rated as appliance wiring material in dry locations, conductor temperatures not to exceed 105°C
- MTW- Wet locations or when exposed to oil at temperatures not to exceed 60°C or dry locations not to exceed 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79)

#### FEATURES

- Gasoline and Oil Resistant II
- MTW- Stranded Constructions Only
- RoHS Compliant

### SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 66 Fixture Wire
- UL 758 Standard for Appliance Wiring Material
- UL 1063 Machine Tool Wiring (MTW)

### SAMPLE PRINT LEGEND:

E30071 (UL) XX AWG CU TYPE TFFN OR MTW OR GASOLINE AND OIL RESISTANT II OR AWM 600 VOLTS --- RoHS





**Table 1 – Weights and Measurements**

| Cond. Size | Strand Count   | Diameter Over Conductor | Insul. Thickness | Insulation Color | Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight |
|------------|----------------|-------------------------|------------------|------------------|------------------|------------|---------------|----------------|
| AWG/Kcmil  | No. of Strands | inch                    | mil              |                  | mil              | inch       | lb/1000ft     | lb/1000ft      |
| 18         | Solid          | 0.040                   | 15               | GN               | 5                | 0.080      | 4             | 6              |
| 18         | 16             | 0.045                   | 15               | BK/BE            | 5                | 0.087      | 4             | 7              |
| 16         | Solid          | 0.050                   | 15               | GN               | 5                | 0.090      | 7             | 10             |
| 16         | 26             | 0.059                   | 15               | GN               | 5                | 0.101      | 7             | 10             |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

**Table 2 – Electrical and Engineering Data**

| Cond. Size | Min Bending Radius | DC Resistance @ 25°C | AC Resistance @ 75°C | Inductive Reactance @ 60Hz | Allowable Ampacity At 75°C | Allowable Ampacity At 90°C |
|------------|--------------------|----------------------|----------------------|----------------------------|----------------------------|----------------------------|
| AWG/Kcmil  | inch               | Ω/1000ft             | Ω/1000ft             | Ω/1000ft                   | Amp                        | Amp                        |
| 18         | 0.3                | 6.669                | 8.035                | 0.036                      | -                          | 14                         |
| 18         | 0.3                | 6.669                | 8.035                | 0.036                      |                            | 14                         |
| 16         | 0.4                | 4.181                | 5.037                | 0.033                      | -                          | 18                         |
| 16         | 0.4                | 4.487                | 5.406                | 0.033                      | -                          | 18                         |

\* Ampacities based on 2023 NEC Table 402.5.

\* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

**Table 3 - Stock Code Colors ( / means stripe. Blue/White: Blue with White Stripe)**

| Size (Strand) | Black  | Red    | Blue   | White  | Brown  | Orange | Yellow | Gray   | Pink   | Purple | Tan    | Green  |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 18 (Solid)    | 269779 | 269795 | 269803 | 269787 | 269845 | 269837 | 269829 | 269878 |        | 269860 |        | 269811 |
| 16 (Solid)    | 269886 | 269902 | 269910 | 269894 | 269951 | 269944 | 269936 | 269985 | 457241 | 269977 |        | 269928 |
| 18 (16)       | 270215 | 270231 | 270249 | 270223 | 270280 | 270272 | 270264 | 270314 | 270298 | 270306 |        | 270256 |
| 16 (26)       | 270322 | 270348 | 270355 | 270330 | 270397 | 270389 | 270371 | 270421 | 270405 | 270413 | 297531 | 270363 |

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