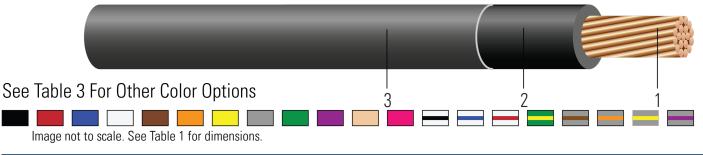


# **TFN/TFFN Copper**

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



## **CONSTRUCTION:**

- 1. **Conductor:** Solid soft drawn bare copper per ASTM B3 for TFN. Class K bunch-stranded soft drawn bare copper per ASTM B174 for TFFN.
- 2. Insulation: Heat and moisture resistant PVC
- 3. 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**

| AWG/Kcmil No. of Strands inch mil mil inch Ib/1000ft | Cond. Size C | Cond. Number | Strand Count   | Diameter Over Conductor | Insul. Thickness | Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight |
|--|--------------|--------------|----------------|-------------------------|------------------|------------------|------------|---------------|----------------|
|  | WG/Kcmil     |              | No. of Strands | inch                    | mil              | mil              | inch       | lb/1000ft     | lb/1000ft      |
| 16 1 Solid 0.050 15 5 0.090 7                        | 16           | 1            | Solid          | 0.050                   | 15               | 5                | 0.090      | 7             | 10             |

All dimensions are nominal and subject to normal manufacturing tolerances

♦ Cable marked with this symbol is a standard stock item

## **Table 2 – Electrical and Engineering Data**

| Cond.<br>Size | Cond.<br>Number | Min Bending<br>Radius | DC Resistance @<br>25°C | AC Resistance @<br>75°C | Inductive Reactance<br>@ 60Hz | Allowable Ampacity<br>At 75°C | Allowable Ampacity<br>At 90°C |
|---------------|-----------------|-----------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|-------------------------------|
| AWG/<br>Kcmil |                 | inch                  | Ω/1000ft                | Ω/1000ft                | Ω/1000ft                      | Amp                           | Amp                           |
| 16            | 1               | 0.4                   | 4.181                   | 5.037                   | 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    | Violet |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 18 (Solid)    | 269779 | 269795 | 269803 | 269787 | 269845 | 269837 | 269829 | 269878 |        | 269860 |        |        |
| 16 (Solid)    | 269886 | 269902 | 269910 | 269894 | 269951 | 269944 | 269936 | 269985 |        | 269977 |        |        |
| 18 (16)       | 270215 | 270231 | 270249 | 270223 | 270280 | 270272 | 270264 | 270314 | 270298 | 270306 | 297549 | 561595 |
| 16 (26)       | 270322 | 270348 | 270355 | 270330 | 270397 | 270389 | 270371 | 270421 | 270405 | 270413 | 297531 |        |

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

| Size<br>(Strand) | Black/<br>Orange | Black/<br>Yellow | Black/<br>Gray | Black/<br>Violet | White/<br>Black | White/<br>Red | White/<br>Blue | Blue/<br>White | Green  | Black/<br>Red | Black/<br>Blue | Black/<br>White | Black/<br>Brown |
|------------------|------------------|------------------|----------------|------------------|-----------------|---------------|----------------|----------------|--------|---------------|----------------|-----------------|-----------------|
| 18 (Solid)       |                  |                  |                |                  |                 | 589281        | 558028         |                | 269811 |               |                |                 |                 |
| 16 (Solid)       |                  |                  |                |                  |                 |               |                | 567169         | 269928 |               |                |                 |                 |
| 18 (16)          | 587084           | 587087           | 587082         | 587081           | 587091          |               |                |                | 270256 | 587083        | 587085         | 587090          | 587086          |
| 16 (26)          |                  |                  |                |                  |                 |               |                |                | 270363 |               |                |                 |                 |



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