

MachineFLEX™ Power

90°C Wet/90°C Dry. 600 Volts. Flexible Stranded Copper Conductor. PVC Insulation and Nylon Jacket (THHN/THWN-2). Oil & Gasoline Resistant. Sunlight Resistant. Rated UL VW-1 and CSA FT1 & FT4 Flame Resistant.



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** 8 - 4/0 AWG: Class K, Flexible stranded bare copper. 250 - 750 KCMIL: Class I, Flexible stranded bare copper
- Insulation:** Polyvinyl Chloride (PVC) with Nylon sheath

APPLICATIONS AND FEATURES:

Southwire's MachineFLEX™ Power cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation in wet and dry locations, 130°C for emergency overload, and 105°C for short circuit conditions. 1/0 AWG & Larger rated for CT use.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 758 Standard for Appliance Wiring Material Style 2463 (80C, 600V)
- UL 1063 Machine Tool Wiring (MTW)
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- **CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive**

SAMPLE PRINT LEGEND:

8AWG-1AWG

SOUTHWIRE #P# (UL) 1 AWG (42.406 mm²) CU TYPE THHN/THWN-2 600V 90(D)C DRY/90(D)C WET PRI/GRI VW-1 OR AWM [Applicable Styles] OR MTW SUN RES --- (CSA) T90 NYLON OR TWN75 FT1 FT4 --- CE RoHS-2 Made in USA. [SEQUENTIAL FOOTAGE MARKS]

1/0 AWG - 500 KCMIL

SOUTHWIRE #P# (UL) 500 KCMIL (253.35mm²) CU TYPE THHN/THWN-2 600V 90(D)C DRY/90(D)C WET PRI/GRI VW-1 FOR CT USE OR AWM [Applicable Styles] OR MTW SUN RES --- (CSA) T90 NYLON OR TWN75 FT1 FT4 --- CE RoHS-2 Made in USA. [SEQUENTIAL FOOTAGE MARKS]



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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	No.	inch	mil	inch	lb/1000ft
TBA	1000	1	2516	1.190	79	1.350	3260

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

Stock Number	Cond. Size	Cond. Number	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance	Min Bending Radius	Allowable Ampacity At 60°C†	Allowable Ampacity At 75°C†	Allowable Ampacity At 90°C†
	AWG/Kcmil	No.	Ω/1000ft	Ω/1000ft	MΩ/1000ft	inch	Amp	Amp	Amp
TBA	1000	1	0.0117	0.0167	0.026	6.75	455	545	615

† Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Allowable Ampacities of Insulated Conductors Rated Up to and Including 2000 Volts, 60°C Through 90°C (140°F Through 194°F) Not More Than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried), Based on ambient temperature of 30°C (86°F)

Stock Codes and Colors

Size	BLACK	BROWN	ORANGE	YELLOW	GRAY	GREEN/YELLOW	GREEN
#4	TBA	TBA	TBA	TBA	TBA	TBA	674667
#3	TBA	TBA	TBA	TBA	TBA	TBA	664229
1/0	TBA	TBA	TBA	TBA	TBA	677368	674668
3/0	TBA	664217	664220	664223	664226	TBA	TBA
4/0	679607 ◊	TBA	TBA	TBA	TBA	679606 ◊	TBA
250 Kcmil	649414 ◊	672218 ◊	672217 ◊	672219 ◊	673792 ◊	677370 ◊	673791 ◊
300 Kcmil	672866	674116	674117	674118	674120	TBA	674121
350 Kcmil	649415 ◊	674662 ◊	674664 ◊	674665 ◊	674666 ◊	672017 ◊	652964 ◊
500 Kcmil	648948 ◊	646978 ◊	646979 ◊	646980 ◊	646981 ◊	646982 ◊	677701
600 Kcmil	649416 ◊	678431 ◊	678432 ◊	678434 ◊	678435 ◊	678436 ◊	673748 ◊
750 Kcmil	649549	677721	677722	677723	677725	677726	TBA
1000 Kcmil	674459	TBA	TBA	TBA	TBA	TBA	TBA

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