

## 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 mm<sup>2</sup>) 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 (253.35mm<sup>2</sup>) 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 AWG/Kcmil	Cond. Number No.	Cond. Strands No.	Diameter Over Conductor inch	Insul. Thickness mil	Approx. OD inch	Approx. Weight lb/1000ft
TBA	8	1	168	0.158	35	0.227	64
TBA	6	1	273	0.19	35	0.26	97
TBA	4	1	413	0.235	46	0.332	157
TBA	2	1	665	0.3	46	0.412	240
TBA	1	1	836	0.34	57	0.454	310
TBA	1/0	1	1044	0.4	57	0.514	377
TBA	2/0	1	1330	0.43	57	0.544	468
TBA	3/0	1	1672	0.49	57	0.604	590
TBA	4/0	1	2109	0.55	58	0.664	747
TBA	250	1	627	0.605	68	0.741	853
TBA	300	1	735	0.655	68	0.774	1023
TBA	350	1	855	0.67	68	0.806	1157
TBA	500	1	1221	0.858	68	0.994	1622
TBA	600	1	1480	0.963	79	1.119	2025
TBA	750	1	1850	1.094	79	1.252	2571
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 AWG/Kcmil	Cond. Number No.	DC Resistance @ 25°C Ω/1000ft	AC Resistance @ 90°C Ω/1000ft	Inductive Reactance MΩ/1000ft	Min Bending Radius inch	Allowable Ampacity At 60° C† Amp	Allowable Ampacity At 75° C† Amp	Allowable Ampacity At 90° C† Amp
TBA	8	1	0.652	0.815	0.03	0.91	40	50	55
TBA	6	1	0.411	0.514	0.028	1.04	55	65	75
TBA	4	1	0.258	0.323	0.029	1.33	70	85	95
TBA	2	1	0.162	0.203	0.028	1.65	95	115	130
TBA	1	1	0.129	0.161	0.028	1.82	110	130	145
TBA	1/0	1	0.102	0.128	0.028	2.06	125	150	170
TBA	2/0	1	0.081	0.102	0.027	2.18	145	175	195
TBA	3/0	1	0.064	0.081	0.027	2.42	165	200	225
TBA	4/0	1	0.051	0.064	0.026	2.66	195	230	260
TBA	250	1	0.043	0.055	0.027	2.96	215	255	290
TBA	300	1	0.038	0.048	0.026	3.00	240	285	320
TBA	350	1	0.031	0.040	0.026	3.22	260	310	350
TBA	500	1	0.022	0.029	0.026	3.98	320	380	430
TBA	600	1	0.018	0.024	0.025	5.6	350	420	475
TBA	750	1	0.014	0.020	0.026	6.26	400	475	535
TBA	1000	1	0.0117	0.0167	0.026	6.75	455	545	615



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† 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
1/0	TBA	TBA	TBA	TBA	TBA	677368	674668
4/0	679607 <sup>◇</sup>	TBA	TBA	TBA	TBA	679606 <sup>◇</sup>	TBA
250Kcmil	649414 <sup>◇</sup>	672218 <sup>◇</sup>	672217 <sup>◇</sup>	672219 <sup>◇</sup>	673792 <sup>◇</sup>	677370 <sup>◇</sup>	673791 <sup>◇</sup>
300Kcmil	672866	674116	674117	674118	674120	TBA	674121
350Kcmil	649415 <sup>◇</sup>	674662 <sup>◇</sup>	674664 <sup>◇</sup>	674665 <sup>◇</sup>	674666 <sup>◇</sup>	672017 <sup>◇</sup>	652964 <sup>◇</sup>
500Kcmil	648948 <sup>◇</sup>	646978 <sup>◇</sup>	646979 <sup>◇</sup>	646980 <sup>◇</sup>	646981 <sup>◇</sup>	646982 <sup>◇</sup>	677701
600Kcmil	649416 <sup>◇</sup>	678431 <sup>◇</sup>	678432 <sup>◇</sup>	678434 <sup>◇</sup>	678435 <sup>◇</sup>	678436 <sup>◇</sup>	673748 <sup>◇</sup>
750Kcmil	649549	677721	677722	677723	677725	677726	TBA
1000Kcmil	674459	TBA	TBA	TBA	TBA	TBA	TBA

<sup>◇</sup> Cable marked with this symbol is a standard stock item



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