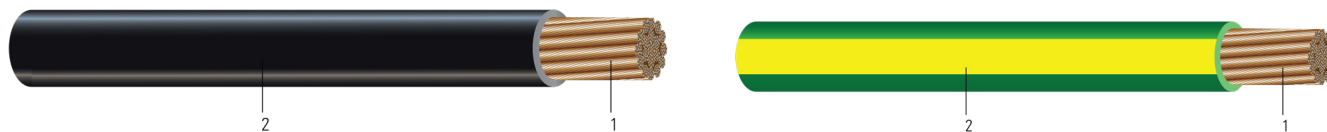


## Machine Flexible Power

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.



Images 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  
Colors: All colors available, including Green with 30% Yellow Stripe

### APPLICATIONS AND FEATURES:

Southwire's Machine Flexible 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 250°C for short circuit conditions. 1/0 AWG & Larger rated for CT USE

### SPECIFICATIONS:

- ASTM B3, B174, B172
- UL 83 - Type THHN/THWN-2, Oil & Gas Res I, VW-1
- UL 1063 - Machine Tool Wiring (MTW); 22 AWG - 1000 Kcmil
- UL 1685/IEEE 1202 FT4 (70,000) BTU/hr Vertical-Tray Fire Propagation and Smoke Release Test
- CSA C22.2 No. 75 - Type T90 Nylon, TWN75
- ICEA S-95-658 NEMA WC70 - Power cables rated 2000 volts or less for the distribution of electrical energy
- UL 758 - Appliance Wire:
  - AWM 1318/1410: AWG 8-6      AWM 1319/1411: AWG 4-2      AWM 1320/1412: AWG 1-4/0
  - AWM 1321/1413: Kcmil 250-500      AWM 1321/1414: Kcmil 600-1000
- 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]

### PACKAGING:

1 - 8 AWG: 2500'    1/0 - 4/0 AWG: 1,000'    250 - 750KCMIL 500'    Other packages and lengths available upon request.



**Southwire**<sup>®</sup>

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**Table 1 – Weights & Measurements**

Size AWG	Stock Code and Colors							Conductor		Insul. Thickness	Nylon Sheath	Nominal OD (2)	Approx. Weight
	BLK	BRN	ORG	YLW	GRY	GRN- YLW	GRN	Dia (1)	Count				
								inches	strands	inches	mils	inches	lbs./MFT
8	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.158	168	30	5	0.227	64
6	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.190	273	30	5	0.26	97
4	TBA	TBA	TBA	TBA	TBA	679606	674667	0.235	413	40	6	0.332	157
2	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.300	665	40	6	0.412	240
1	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.340	836	50	7	0.454	310
1/0	TBA	TBA	TBA	TBA	TBA	677368	674668	0.400	1044	50	7	0.514	377
2/0	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.430	1330	50	7	0.544	468
3/0	TBA	TBA	TBA	TBA	TBA	TBA	TBA	0.490	1672	50	7	0.604	590
4/0	679607 †	TBA	TBA	TBA	TBA	679606	TBA	0.550	2109	50	8	0.664	747
250	649414 †	TBA	TBA	TBA	TBA	677370	TBA	0.605	627	60	8	0.741	853
350	649415 †	674662	674664	674665	674666	TBA	TBA	0.670	855	60	8	0.806	1157
500	648948 †	646978 †	646979 †	646980 †	646981 †	646982 †	TBA	0.858	1221	60	8	0.994	1622
600	649416 †	678431	678432	678434	678435	678436	TBA	0.963	1480	70	9	1.119	2025
750	649549	677721	677722	677723	677725	677726	TBA	1.094	1850	70	9	1.252	2571

All dimensions are nominal and subject to normal manufacturing tolerances

† Standard stock item

**Table 2 – Electrical and Engineering Data**

Cond. Size AWG	Max Pull Tension lbs.	Min Bending Radius Inches	Resistance		Reactance X <sub>L</sub> @ 60Hz Ω/MFT	Ø Short Cir- cuit Current 6 Cycles Amps	Allowable Ampacities			
			DC @ 25°C Ω/MFT	AC @ 90°C Ω/MFT			60 °C †	75 °C †	90 °C †	90 °C ††
								Amps	Amps	Amps
8	132	0.91	0.652	0.815	0.030	3754	40	50	55	80
6	210	1.04	0.411	0.514	0.028	5966	55	65	75	105
4	334	1.33	0.258	0.323	0.029	9491	70	85	95	140
2	531	1.65	0.162	0.203	0.028	15089	95	115	130	190
1	670	1.82	0.129	0.161	0.028	19029	110	130	145	220
1/0	845	2.06	0.102	0.128	0.028	24011	125	150	170	260
2/0	1065	2.18	0.081	0.102	0.027	30264	145	175	195	300
3/0	1342	2.42	0.064	0.081	0.027	38154	165	200	225	350
4/0	1693	2.66	0.051	0.064	0.026	48114	195	230	260	405
250	2000	2.96	0.043	0.055	0.027	56845	215	255	290	455
350	2800	3.22	0.031	0.039	0.026	79583	260	310	350	570
500	4000	3.98	0.022	0.028	0.026	113690	320	380	430	700
600	4800	5.60	0.018	0.024	0.025	136428	350	420	475	780
750	6000	6.26	0.014	0.02	0.026	170535	400	475	535	885

† 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)

†† Ampacities are based on Table 310.15 (B)(17) of the NEC, 2014 Edition. Allowable Ampacities of Single-Insulated Conductors Rated Up to and Including 2000 Volts in Free Air, Based on Ambient Temperature of 30°C (86°F)

