



# Southwire® Machine Flex® Hookup PVC

105°C Dry. 60/75°C Moisture Resistant. 600/1000 Volts. Flexible Stranded Tinned Copper Conductor. PVC Insulation .



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Flexible stranded tinned copper per ASTM B33, ASTM B172, ASTM B173
  2. **Insulation:** Polyvinyl Chloride (PVC)
- Colors: Other Colors available; including Green with 2x15% +/- 5% Tolerance Yellow Extruded Stripe. Other stripes available.
  - Extruded stripes limited to sizes 4/0 AWG and smaller. 250 kcmil available in solid colors only.

## APPLICATIONS AND FEATURES:

Southwire's Machine Flex® power cables are suited for use in wet and dry areas, conduits, ducts, troughs, 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 75°C for normal operation in wet and dry locations, 90°C for emergency overload, and 150°C for short circuit conditions. 1/0 AWG & larger rated for CT use.

## SPECIFICATIONS:

- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- ASTM B173 Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 758 Standard for Appliance Wiring Material
- UL 1063 Machine Tool Wiring (MTW)
- CSA C22.2 No. 127 Equipment and Lead Wires
- CSA C22.2 No. 210 Appliance Wiring Material Products
- CT USE - As Type THHW in 1 /0 AWG & Larger
- Oil Res I & Sun Res - AWG 8 & Larger
- AWM 1032; AWG 18-6 AWM 1011/1015/1230/1335; AWG 18-10  
AWM 1011/1028/1231/1344; AWG 8 AWM 1232/1283/1346/10269; AWG 6-2  
AWM 1232/1284/1338/10269; AWG 1- 4/0 AWM 1284/1339/10269; Kcmil 250
- **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**
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661





**SAMPLE PRINT LEGEND:**

- SOUTHWIRE 18 AWG (0.823mm<sup>2</sup>) E51583 (PLANT ID CODE) (UL) MTW OR AWM 1011/1015/1230/1335/1345 600V OR 1032 1000V MOISTURE RESISTANT VW-1 -- 156205 CSA TEW 105°C 600V FT1 OR AWM I A/B 105°C 600V FT1 -- CE RoHS-2 MADE IN USA
- SOUTHWIRE® 8 AWG (8.37mm<sup>2</sup>) E69567 (PLANT ID CODE) (UL) BC-5W2 OR MTW OR THHW OR AWM 1011/1028/1231/1337 600V OR 1032 1000V MOISTURE RESISTANT OIL RES I SUN RES VW-1 -- 156205 CSA TEW 105°C 600V FT1 OR AWM I A/B 105°C 600V FT1-CE RoHS-2 MADE IN USA
- SOUTHWIRE® 250 MCM (127mm<sup>2</sup>) E51583 (PLANT ID CODE) (UL) MTW OR THHW FOR CT USE OR AWM 1284/1339 600V OR 10269 1000V. OIL RES 1 SUN RES VW-1 - 156205 CSA AWM A/B 105°C 600 V - CE RoHS-2 MADE IN USA

**Table 1 – Weights and Measurements**

Stock Number	Cond. Size AWG/Kcmil	Cond. Strands No.	Diameter Over Conductor inch	Insul. Thickness mil	Approx. OD inch	Approx. Weight lb/1000ft
TBA	20	10	0.036	30	0.099	7.09
TBA	18	16	0.044	30	0.106	9
F16502122C2	16	26	0.059	30	0.117	13
F14647122C2	14	41	0.073	30	0.132	18
F12276122C2	12	65	0.094	30	0.151	27
F10237072C2	10	105	0.117	30	0.175	41
TBA	8	133	0.153	45	0.252	72
F0618907C2	6	133	0.198	60	0.324	113
F0412707C2	4	133	0.235	60	0.387	166
F0213312C2	2	133	0.290	60	0.420	259
TBA	1	259	0.345	80	0.521	324
F1T09704C2	1/0	259	0.390	80	0.561	401
TBA	2/0	259	0.409	80	0.585	513
F3T10304C2	3/0	259	0.533	80	0.666	601
TBA	4/0	551	0.550	80	0.740	785
TBA	250	2451	0.682	95	0.835	934

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. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Max Pull Tension	Max Pull Tension	Min Bending Radius	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/Kcmil	Ω/1000ft	Ω/1000ft	lb	lb	inch	Amp	Amp
20	11.319	14.725	8	8	0.4	-	-
18	7.148	8.613	13	13	0.4	-	14
16	4.487	5.406	21	21	0.4	-	18
14	2.814	3.391	33	33	0.5	20	25
12	1.774	2.137	52	52	0.6	25	30
10	1.111	1.339	83	83	0.7	35	40
8	0.715	0.861	132	132	1.0	50	55
6	0.450	0.541	209	209	1.2	65	75
4	0.282	0.340	333	333	1.5	85	95
2	0.179	0.216	530	530	1.8	115	130
1	0.143	0.172	669	669	2.0	130	145
1/0	0.113	0.136	844	844	2.2	150	170
2/0	0.090	0.108	1064	1064	2.6	175	195
3/0	0.072	0.087	1342	1342	2.6	200	225
4/0	0.057	0.069	1692	1692	2.9	230	260
250	0.048	0.059	2000	2000	3.3	255	290

† Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

† Ampacities have been adjusted for more than Three Current-Carrying Conductors.

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

