Southwire® Machine Flex® Hookup PVC

105ºC Dry. 60/75ºC 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
- 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

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UPDATED: Dec. 31, 2024, 11:07 p.m.UTC REVISION: 1.000.009

SAMPLE PRINT LEGEND:

- SOUTHWIRE 18 AWG (0.823mm2) 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 (8.37mm2) 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 (127mm2) 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	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	No.	inch	mil	inch	lb/1000ft
F16502122C2	16	1	26	0.059	30	0.117	13
F14647122C2	14	1	41	0.073	30	0.132	18
F12276122C2	12	1	65	0.094	30	0.151	27
F10237072C2	10	1	105	0.117	30	0.175	41
TBA	8	1	133	0.153	45	0.243	64
F0618907C2	6	1	133	0.198	60	0.324	113
F0412707C2	4	1	133	0.235	60	0.387	166
F0213312C2	2	1	133	0.29	60	0.42	259
TBA	1	1	259	0.347	80	0.507	312
F1T09704C2	1/0	1	259	0.39	80	0.561	401
TBA	2/0	1	259	0.4	80	0.56	433
F3T10304C2	3/0	1	259	0.533	80	0.666	601
TBA	4/0	1	551	0.55	80	0.71	744
TBA	250	1	2451	0.682	95	0.872	902

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance	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	Ω/1000ft	lb	lb	inch	Amp	Amp
16	4.487	5.406	0.033	21	21	0.4	-	18
14	2.814	3.391	0.058	33	33	0.5	20	25
12	1.774	2.137	0.054	52	52	0.6	25	30
10	1.111	1.339	0.05	83	83	0.7	35	40
8	0.666	0.827	0.052	132	132	1	50	55
6	0.45	0.541	0.051	209	209	1.2	65	75
4	0.282	0.34	0.048	333	333	1.5	85	95
2	0.179	0.216	0.045	530	530	1.8	115	130
1	0.133	0.165	0.046	669	669	2	130	145
1/0	0.113	0.136	0.044	844	844	2.2	150	170
2/0	0.085	0.105	0.043	1064	1064	2.2	175	195
3/0	0.072	0.087	0.042	1342	1342	2.6	200	225
4/0	0.053	0.066	0.041	1692	1692	2.8	230	260
250	0.045	0.056	0.041	2000	2000	3.5	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.

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