



Southwire® Machine Flex® Power Thermoset LSZH-TS

90°C Wet or Dry. 600 Volts or 1000 Volts. Flexible Stranded Copper Conductor. Thermoset Low Smoke Zero Halogen (LSZH-TS). Oil & Gasoline Resistant. Sunlight Resistant. Rated UL VW-1 and CSA FT1 & VW-1 Flame Resistant for sizes smaller than 2 AWG. Rated UL FT4-ST1 and CSA FT4-ST1 Flame Resistant for sizes 2 AWG and larger.



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 8 - 4/0 AWG: Class K, Flexible stranded bare copper. 250 - 750 kcmil: Class I, Flexible stranded bare copper
2. **Insulation:** Thermoset Low Smoke Zero Halogen (LSZH-TS)

APPLICATIONS AND FEATURES:

Southwire's Machine Flex® 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 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 44 Thermoset-Insulated Wires and Cables
- UL 1685 FT4-Vertical-Tray Fire Propagation and Smoke Release Test (2 AWG and Larger)
- CSA C22.2 No. 38 Thermoset-insulated wires and cables
- 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
- 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:

8AWG-6AWG:

SOUTHWIRE® E30117 (PLANT ID) (UL) (XX AWG) # OF STRANDS STRAND CLASS X XX mm² TYPE XHHW-2-HF 600V/1000V SR PR II GR II 90(D)C DRY OR WET -40(D)C VW-1 --- (CSA) LL90458 RW90 HAL-FREE 600V/100V SR PR II GR II -40(D)C XLPO --- CE RoHS-2 MADE IN USA --- (MM/DD/YYYY)

2AWG & Larger:

SOUTHWIRE® E30117 (PLANT ID) (UL) (XX AWG) # OF STRANDS STRAND CLASS X XX mm² TYPE XHHW-2--HF 600V/1000V SR PR II GR II 90(D)C DRY OR WET -40(D)C FOR CT USE FT4-ST1 --- (CSA) LL90458 RW90 HAL-FREE 600V/100V SR PR II GR II -40(D)C XLPO FT4-ST1 --- CE RoHS-2 MADE IN USA --- (MM/DD/YYYY)

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count No. of Strands	Diameter Over Conductor	Insul. Thickness	Dia. Over Insulation	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil		inch	mil	inch	inch	lb/1000ft	lb/1000ft
TBA	8	168	0.153	35	0.223	0.223	52	62
TBA	6	273	0.198	35	0.268	0.268	89	102
TBA	4	413	0.235	50	0.335	0.335	130	153
TBA	2	665	0.302	50	0.402	0.402	210	238
TBA	1	836	0.397	60	0.517	0.517	266	310
TBA	2/0	1330	0.400	60	0.520	0.520	381	426
TBA	1/0	1044	0.400	60	0.520	0.520	334	379
TBA	3/0	1672	0.533	60	0.653	0.653	535	593
TBA	4/0	2109	0.550	60	0.670	0.670	676	735
TBA	250	627	0.605	70	0.745	0.745	764	841
TBA	300	735	0.638	70	0.778	0.778	929	1010
TBA	350	855	0.670	70	0.810	0.810	1061	1145
TBA	500	1221	0.858	70	0.998	0.998	1514	1620
TBA	600	1480	0.963	80	1.123	1.123	1859	1995
TBA	750	1850	1.094	80	1.254	1.254	2368	2521
TBA	1000	2516	1.19	80	1.350	1.350	3045	3211

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	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
	AWG/Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
TBA	8	0.8	132	0.715	0.861	0.052	50	55
TBA	6	0.0	209	0.45	0.541	0.051	65	75
TBA	4	1.3	333	0.282	0.34	0.048	85	95
TBA	2	1.6	530	0.179	0.216	0.045	115	130
TBA	1	2.0	669	0.143	0.172	0.046	130	145
TBA	2/0	2.0	1064	0.09	0.108	0.043	175	195
TBA	1/0	2.0	844	0.113	0.136	0.044	150	170
TBA	3/0	2.6	1342	0.072	0.087	0.042	200	225
TBA	4/0	2.6	1692	0.057	0.069	0.041	230	260
TBA	250	2.9	2000	0.047	0.057	0.041	255	290
TBA	300	3.1	2400	0.039	0.048	0.041	285	320
TBA	350	3.2	2800	0.033	0.042	0.04	310	350
TBA	500	3.9	4000	0.023	0.031	0.039	380	430
TBA	600	5.6	4800	0.019	0.027	0.039	420	475
TBA	750	6.2	6000	0.016	0.024	0.038	475	535
TBA	1000	6.7	8000	0.012	0.02	0.037	545	615

† 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.

