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

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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 PRII GRII 90(D)C DRY OR WET -40(D)C VW-1 --- (CSA) LL90458 RW90 HAL-FREE 600V/100V SR PRII GRII -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 PRII GRII 90(D)C DRY OR WET -40(D)C FOR CT USE FT4-ST1 --- (CSA) LL90458 RW90 HAL-FREE 600V/100V SR PRII GRII -40(D)C XLPO FT4-ST1 --- CE RoHS-2 MADE IN USA --- (MM/DD/YYYY)

Table 1 – Weights and Measurements

Cond. Size	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Approx. OD	Approx. Weight	Jacket Color
AWG/Kcmil	No.	No.	inch	mil	inch	lb/1000ft	
8	1	168	0.153	45	0.243	64	BK
6	1	273	0.198	60	0.318	110	BK
4	1	413	0.235	60	0.355	154	BK
2	1	665	0.302	60	0.422	239	BK
1	1	836	0.347	80	0.507	312	BK
1/0	1	1044	0.354	80	0.514	381	BK
2/0	1	1330	0.4	80	0.56	433	BK
3/0	1	1672	0.533	80	0.693	601	BK
4/0	1	2109	0.55	80	0.71	744	BK
250	1	627	0.605	95	0.795	854	BK
300	1	735	0.638	95	0.828	1023	BK
350	1	855	0.67	95	0.86	1160	BK
500	1	1221	0.858	95	1.048	1637	BK
600	1	1480	0.963	110	1.183	2019	BK
750	1	1850	1.094	110	1.314	2548	BK
1000	1	2516	1.19	110	1.41	3240	BK

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 60°C	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	Ω/1000ft	lb	lb	inch	Amp	Amp	Amp
8	0.666	0.827	0.052	132	132	1	40	50	55
6	0.419	0.52	0.051	209	209	1.3	55	65	75
4	0.263	0.326	0.048	333	333	1.4	70	85	95
2	0.167	0.207	0.045	530	530	1.7	95	115	130
1	0.133	0.165	0.046	669	669	2	110	130	145
1/0	0.105	0.13	0.044	844	844	2.1	125	150	170
2/0	0.085	0.105	0.043	1064	1064	2.2	145	175	195
3/0	0.067	0.083	0.042	1342	1342	2.8	165	200	225
4/0	0.053	0.066	0.041	1692	1692	2.8	195	230	260
250	0.045	0.056	0.041	2000	2000	3.2	215	255	290
300	0.038	0.048	0.041	2400	2400	3.3	240	285	320
350	0.032	0.041	0.04	2800	2800	3.4	260	310	350
500	0.022	0.029	0.039	4000	4000	5.2	320	380	430
600	0.018	0.024	0.039	4800	4800	5.9	350	420	475
750	0.015	0.021	0.038	6000	6000	6.6	400	475	535
1000	0.011	0.016	0.037	8000	8000	7	455	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 center-to-center.

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