

## MachineFLEX™ Power Thermoset LSZH-TS

90°C Wet/90°C 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:

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

### APPLICATIONS AND FEATURES:

Southwire's MachineFLEX™ 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 105°C for short circuit conditions. 1/0 AWG & Larger rated for CT use.

### SPECIFICATIONS:

- ASTM B3 Standard Specification for 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-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (2 AWG and Larger)
- CSA C22.2 No. 38 Thermoset-insulated wires and cables Type RW90
- 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**

### SAMPLE PRINT LEGEND:

8AWG-6AWG:

SOUTHWIRE® E30117 (PLANT ID) (UL) (XX AWG) # OF STRANDS STRAND CLASS X XX mm<sup>2</sup> 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 mm<sup>2</sup> 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)



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**Table 1 – Weights and Measurements**

Stock Number	Cond. Size AWG/Kcmil	Cond. Number No.	Cond. Strands No.	Diameter Over Conductor inch	Insul. Thickness mil	Approx. OD inch	Approx. Weight lb/1000ft
TBA	8	1	168	0.153	45	0.243	66
TBA	6	1	273	0.198	45	0.288	106
TBA	4	1	413	0.235	45	0.325	150
TBA	2	1	665	0.302	45	0.392	235
TBA	1	1	836	0.397	55	0.507	306
TBA	1/0	1	1044	0.4	55	0.51	374
TBA	2/0	1	1330	0.47	55	0.58	472
TBA	3/0	1	1672	0.533	55	0.643	687
TBA	4/0	1	2109	0.55	55	0.66	730
TBA	250	1	627	0.605	65	0.735	835
TBA	300	1	735	0.638	65	0.768	1003
TBA	350	1	855	0.67	65	0.8	1139
TBA	600	1	1480	0.963	80	1.123	1995
TBA	500	1	1221	0.988	65	0.988	1612
TBA	750	1	1850	1.094	80	1.254	2521
TBA	1000	1	2516	1.190	80	1.350	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 AWG/Kcmil	Cond. Number No.	DC Resistance @ 25°C Ω/1000ft	AC Resistance @ 90°C Ω/1000ft	Inductive Reactance MΩ/1000ft	Min Bending Radius inch	Allowable Ampacity At 60° C† Amp	Allowable Ampacity At 75° C† Amp	Allowable Ampacity At 90° C† Amp
TBA	8	1	0.7148	0.93	0.034	1	40	50	55
TBA	6	1	0.4497	0.585	0.0327	1.2	55	65	75
TBA	4	1	0.2825	0.3674	0.0294	1.3	70	85	95
TBA	2	1	0.1795	0.2335	0.0284	1.6	95	115	130
TBA	1	1	0.1428	0.1857	0.0317	2	110	130	145
TBA	1/0	1	0.1132	0.1473	0.0292	2	125	150	170
TBA	2/0	1	0.0904	0.1176	0.0294	2.3	145	175	195
TBA	3/0	1	0.0717	0.0933	0.0292	2.6	165	200	225
TBA	4/0	1	0.0569	0.074	0.027	2.6	195	230	260
TBA	250	1	0.0466	0.0606	0.0273	2.9	215	255	290
TBA	300	1	0.0389	0.0505	0.0262	3.1	240	285	320
TBA	350	1	0.0333	0.0434	0.0254	3.2	260	310	350
TBA	600	1	0.0195	0.0298	0.027	4.5	350	420	475
TBA	500	1	0.0234	0.0356	0.0261	4	320	380	430
TBA	750	1	0.0157	0.0239	0.0269	5	400	475	535
TBA	1000	1	0.0117	0.0179	0.0253	5.4	455	545	615



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† 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)

