



25kV CU 100% TRXLPE LCT LLDPE

Single Conductor, 260 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- 1. Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 optional)
- 2. Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- 3. Insulation:** 260 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
- 4. Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- 5. Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- 6. Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 25kV cables are suited for use in wet and dry areas, conduits, ducts, direct burial, sunlight, 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. 130°C for emergency overload, and 250°C for short circuit conditions. Jacket types available that can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
- UL 1072 Listed as MV 90 When Specified
- Optional CSA 68.5: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 25000 VOLTS TRXLPE INSULATION 260 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET





Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
TBA	1 (Solid)	0.289	0.847	260	0.927	80	1.187	820	14.2	669
TBA	1 (19)	0.322	0.880	260	0.960	80	1.220	844	14.6	669
TBA	1/0 (Solid)	0.324	0.882	260	0.962	80	1.222	913	14.7	844
TBA	1/0 (19)	0.361	0.919	260	0.999	80	1.259	941	15.1	844
TBA	2/0 (19)	0.405	0.963	260	1.043	80	1.303	1060	15.6	1064
TBA	3/0 (19)	0.456	1.014	260	1.094	80	1.354	1206	16.2	1342
TBA	4/0 (19)	0.512	1.070	260	1.150	80	1.410	1382	16.9	1692
TBA	250 (37)	0.558	1.124	260	1.204	80	1.464	1545	17.6	2000
TBA	350 (37)	0.661	1.227	260	1.307	80	1.567	1934	18.8	2800
TBA	500 (37)	0.789	1.355	260	1.435	110	1.755	2596	21.1	4000
614491 [^]	750 (61)	0.968	1.538	260	1.618	110	1.938	3474	23.3	6000
TBA	1000 (61)	1.117	1.693	260	1.773	110	2.093	4426	25.1	8000

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor

[^] Supersmooth conductor Shield



Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1 (Solid)	0.128	0.162	0.064	0.054	0.223	1.0	0.471 + j0.204	0.163 + j0.055	3711	175	220
1 (19)	0.128	0.162	0.060	0.052	0.237	1.0	0.465 + j0.194	0.163 + j0.053	3823	175	220
1/0 (Solid)	0.102	0.128	0.060	0.052	0.238	1.0	0.431 + j0.193	0.129 + j0.053	3830	200	250
1/0 (19)	0.102	0.128	0.056	0.050	0.254	1.1	0.425 + j0.183	0.129 + j0.051	3955	200	250
2/0 (19)	0.081	0.102	0.052	0.049	0.273	1.2	0.391 + j0.172	0.103 + j0.049	4104	230	285
3/0 (19)	0.064	0.081	0.048	0.047	0.294	1.3	0.362 + j0.161	0.082 + j0.047	4277	260	320
4/0 (19)	0.051	0.065	0.045	0.045	0.318	1.4	0.337 + j0.149	0.066 + j0.045	4466	300	365
250 (37)	0.043	0.056	0.042	0.044	0.341	1.5	0.320 + j0.140	0.057 + j0.044	4649	315	396
350 (37)	0.031	0.041	0.037	0.042	0.384	1.7	0.290 + j0.124	0.042 + j0.042	4998	390	475
500 (37)	0.022	0.030	0.032	0.040	0.438	1.9	0.263 + j0.108	0.032 + j0.041	5431	470	565
750 (61)	0.014	0.023	0.027	0.038	0.521	2.3	0.235 + j0.090	0.025 + j0.038	6051	585	680
1000 (61)	0.011	0.019	0.024	0.036	0.578	2.5	0.216 + j0.079	0.021 + j0.037	6575	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.





Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
TBA	1 (Solid)	7.34	21.51	6.60	23.55	2.03	30.15	1220	360.68	2977
TBA	1 (19)	8.18	22.35	6.60	24.38	2.03	30.99	1256	370.84	2977
TBA	1/0 (Solid)	8.23	22.40	6.60	24.43	2.03	31.04	1359	373.38	3756
TBA	1/0 (19)	9.17	23.34	6.60	25.37	2.03	31.98	1400	383.54	3756
TBA	2/0 (19)	10.29	24.46	6.60	26.49	2.03	33.10	1577	396.24	4735
TBA	3/0 (19)	11.58	25.76	6.60	27.79	2.03	34.39	1795	411.48	5972
TBA	4/0 (19)	13.00	27.18	6.60	29.21	2.03	35.81	2057	429.26	7529
TBA	250 (37)	14.17	28.55	6.60	30.58	2.03	37.19	2299	447.04	8900
TBA	350 (37)	16.79	31.17	6.60	33.20	2.03	39.80	2878	477.52	12460
TBA	500 (37)	20.04	34.42	6.60	36.45	2.79	44.58	3863	535.94	17800
614491 [^]	750 (61)	24.59	39.07	6.60	41.10	2.79	49.23	5170	591.82	26700
TBA	1000 (61)	28.37	43.00	6.60	45.03	2.79	53.16	6587	637.54	35600

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor

[^] Supersmooth conductor Shield





Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1 (Solid)	0.4199	0.53	0.0195	0.1772	0.732	3.2808	0.471 + j0.204	0.163 + j0.055	3711	175	220
1 (19)	0.4199	0.53	0.0183	0.1706	0.778	3.2808	0.465 + j0.194	0.163 + j0.053	3823	175	220
1/0 (Solid)	0.3346	0.42	0.0183	0.1706	0.781	3.2808	0.431 + j0.193	0.129 + j0.053	3830	200	250
1/0 (19)	0.3346	0.42	0.0171	0.1640	0.833	3.6089	0.425 + j0.183	0.129 + j0.051	3955	200	250
2/0 (19)	0.2657	0.33	0.0158	0.1608	0.896	3.9370	0.391 + j0.172	0.103 + j0.049	4104	230	285
3/0 (19)	0.2100	0.27	0.0146	0.1542	0.965	4.2651	0.362 + j0.161	0.082 + j0.047	4277	260	320
4/0 (19)	0.1673	0.21	0.0137	0.1476	1.043	4.5932	0.337 + j0.149	0.066 + j0.045	4466	300	365
250 (37)	0.1411	0.18	0.0128	0.1444	1.119	4.9213	0.320 + j0.140	0.057 + j0.044	4649	315	396
350 (37)	0.1017	0.13	0.0113	0.1378	1.260	5.5774	0.290 + j0.124	0.042 + j0.042	4998	390	475
500 (37)	0.0722	0.10	0.0098	0.1312	1.437	6.2336	0.263 + j0.108	0.032 + j0.041	5431	470	565
750 (61)	0.0459	0.08	0.0082	0.1247	1.709	7.5459	0.235 + j0.090	0.025 + j0.038	6051	585	680
1000 (61)	0.0361	0.06	0.0073	0.1181	1.896	8.2021	0.216 + j0.079	0.021 + j0.037	6575	670	750

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

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