25kV AL 133% TRXLPE LCT LLDPE

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% 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 Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked 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:** 320 Mils Tree Retardant Cross Linked Polyethylene 133% 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 B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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: -40ºC and MV 90ºC optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 25000 VOLTS TRXLPE INSULATION 320 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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Table 1 – Weights and Measurements

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
1 (Solid)	0.289	0.967	320	1.047	80	1.307	703	15.7	502
1 (19)	0.322	1.000	320	1.080	80	1.340	728	16.1	502
1/0 (Solid)	0.324	1.002	320	1.082	80	1.342	751	16.1	633
1/0 (19)	0.351	1.029	320	1.109	80	1.369	771	16.4	633
2/0 (19)	0.395	1.073	320	1.153	80	1.413	832	17.0	798
3/0 (19)	0.443	1.121	320	1.201	80	1.461	902	17.5	1006
4/0 (19)	0.498	1.176	320	1.256	80	1.516	987	18.2	1269
250 (37)	0.558	1.244	320	1.324	80	1.584	1078	19.0	1500
350 (37)	0.661	1.347	320	1.427	110	1.747	1356	21.0	2100
500 (37)	0.789	1.475	320	1.555	110	1.875	1603	22.5	3000
750 (61)	0.968	1.664	320	1.744	110	2.064	2021	24.8	4500
1000 (61)	1.117	1.813	320	1.893	110	2.213	2385	26.6	6000

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

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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)	0.129	0.162	0.082	0.056	0.101	1.46	0.216 + j0.754	0.162 + j0.054	2956	140	170
1 (19)	0.211	0.266	0.077	0.054	0.108	1.56	0.320 + j0.753	0.266 + j0.055	3048	140	170
1/0 (Solid)	0.102	0.128	0.076	0.054	0.108	1.56	0.182 + j0.750	0.128 + j0.052	3053	155	195
1/0 (19)	0.167	0.211	0.073	0.053	0.114	1.65	0.265 + j0.749	0.211 + j0.053	3128	155	195
2/0 (19)	0.133	0.167	0.068	0.051	0.122	1.76	0.221 + j0.745	0.167 + j0.051	3250	180	220
3/0 (19)	0.105	0.132	0.063	0.049	0.132	1.91	0.186 + j0.741	0.132 + j0.049	3383	200	250
4/0 (19)	0.084	0.105	0.058	0.047	0.142	2.05	0.159 + j0.737	0.105 + j0.047	3536	235	285
250 (37)	0.071	0.090	0.054	0.046	0.152	2.19	0.144 + j0.732	0.090 + j0.046	3724	256	335
350 (37)	0.050	0.065	0.048	0.044	0.172	2.48	0.119 + j0.724	0.065 + j0.044	4009	310	375
500 (37)	0.035	0.046	0.042	0.042	0.195	2.81	0.011 + j0.717	0.046 + j0.042	4364	375	450
750 (61)	0.024	0.033	0.036	0.039	0.226	3.26	0.087 + j0.708	0.033 + j0.039	4888	470	550
1000 (61)	0.018	0.026	0.032	0.037	0.253	3.65	0.080 + j0.701	0.026 + j0.037	5301		630

*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.

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Table 3 – Weights and Measurements (Metric)

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
1 (Solid)	7.34	24.56	8.13	26.59	2.03	33.20	1046	398.78	2234
1 (19)	8.18	25.40	8.13	27.43	2.03	34.04	1083	408.94	2234
1/0 (Solid)	8.23	25.45	8.13	27.48	2.03	34.09	1118	408.94	2817
1/0 (19)	8.92	26.14	8.13	28.17	2.03	34.77	1147	416.56	2817
2/0 (19)	10.03	27.25	8.13	29.29	2.03	35.89	1238	431.80	3551
3/0 (19)	11.25	28.47	8.13	30.51	2.03	37.11	1342	444.50	4477
4/0 (19)	12.65	29.87	8.13	31.90	2.03	38.51	1469	462.28	5647
250 (37)	14.17	31.60	8.13	33.63	2.03	40.23	1604	482.60	6675
350 (37)	16.79	34.21	8.13	36.25	2.79	44.37	2018	533.40	9345
500 (37)	20.04	37.47	8.13	39.50	2.79	47.63	2386	571.50	13350
750 (61)	24.59	42.27	8.13	44.30	2.79	52.43	3008	629.92	20025
1000 (61)	28.37	46.05	8.13	48.08	2.79	56.21	3549	675.64	26700

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

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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)	0.4232	0.53	0.0250	0.1837	0.331	4.7900	0.216 + j0.754	0.162 + j0.054	2956	140	170
1 (19)	0.6923	0.87	0.0235	0.1772	0.354	5.1181	0.320 + j0.753	0.266 + j0.055	3048	140	170
1/0 (Solid)	0.3346	0.42	0.0232	0.1772	0.354	5.1181	0.182 + j0.750	0.128 + j0.052	3053	155	195
1/0 (19)	0.5479	0.69	0.0223	0.1739	0.374	5.4134	0.265 + j0.749	0.211 + j0.053	3128	155	195
2/0 (19)	0.4364	0.55	0.0207	0.1673	0.400	5.7743	0.221 + j0.745	0.167 + j0.051	3250	180	220
3/0 (19)	0.3445	0.43	0.0192	0.1608	0.433	6.2664	0.186 + j0.741	0.132 + j0.049	3383	200	250
4/0 (19)	0.2756	0.34	0.0177	0.1542	0.466	6.7257	0.159 + j0.737	0.105 + j0.047	3536	235	285
250 (37)	0.2329	0.30	0.0165	0.1509	0.499	7.1850	0.144 + j0.732	0.090 + j0.046	3724	256	335
350 (37)	0.1640	0.21	0.0146	0.1444	0.564	8.1365	0.119 + j0.724	0.065 + j0.044	4009	310	375
500 (37)	0.1148	0.15	0.0128	0.1378	0.640	9.2192	0.011 + j0.717	0.046 + j0.042	4364	375	450
750 (61)	0.0787	0.11	0.0110	0.1280	0.741	10.6955	0.087 + j0.708	0.033 + j0.039	4888	470	550
1000 (61)	0.0591	0.09	0.0098	0.1214	0.830	11.9751	0.080 + j0.701	0.026 + j0.037	5301		630

*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.