28kV AL 133% TRXLPE LCT LLDPE

Single Conductor, 345 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:** 345 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 Copper 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 28kV 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 28000 VOLTS TRXLPE INSULATION 345 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	1.017	345	1.097	50	1.297	1378	15.6	502
1 (19)	0.322	1.05	345	1.13	50	1.33	1424	16	502
1/0 (SOLID)	0.325	1.053	345	1.133	50	1.333	1449	16	633
1/0 (19)	0.352	1.08	345	1.16	50	1.36	1486	16.3	633
2/0 (19)	0.395	1.123	345	1.203	50	1.403	1572	16.8	798
3/0 (19)	0.443	1.171	345	1.251	50	1.451	1671	17.4	1006
4/0 (19)	0.498	1.226	345	1.306	50	1.506	1789	18.1	1269
250 (37)	0.558	1.294	345	1.374	50	1.574	1925	18.9	1500
350 (37)	0.661	1.397	345	1.477	75	1.727	2238	20.7	2100
500 (37)	0.789	1.525	345	1.605	75	1.855	2562	22.3	3000
750 (61)	0.968	1.714	345	1.794	75	2.044	3094	24.5	4500
1000 (61)	1.117	1.863	345	1.943	75	2.193	3548	26.3	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
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	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	0.177	0.077	0.056	0.21	3.4	0.432+j0.141	0.179+j0.059	4285	140	170
1 (19)	0.211	0.289	0.073	0.054	0.22	3.6	0.539+j0.138	0.291+j0.060	4397	140	170
1/0 (SOLID)	0.102	0.14	0.072	0.054	0.22	3.6	0.390+j0.135	0.142+j0.057	4407	155	195
1/0 (19)	0.167	0.229	0.069	0.053	0.23	3.8	0.475+j0.132	0.231+j0.058	4498	155	195
2/0 (19)	0.133	0.182	0.065	0.051	0.25	4	0.422+j0.125	0.184+j0.056	4644	180	220
3/0 (19)	0.105	0.144	0.061	0.049	0.27	4.3	0.378+j0.118	0.146+j0.054	4806	200	250
4/0 (19)	0.084	0.115	0.056	0.047	0.29	4.6	0.342+j0.111	0.117+j0.052	4992	235	285
250 (37)	0.07	0.096	0.052	0.046	0.31	5	0.316+j0.104	0.098+j0.051	5223	256	335
350 (37)	0.051	0.07	0.046	0.044	0.35	5.6	0.278+j0.094	0.073+j0.049	5571	310	375
500 (37)	0.036	0.05	0.041	0.041	0.39	6.4	0.246+j0.084	0.053+j0.046	6004	375	450
750 (61)	0.023	0.033	0.035	0.039	0.46	7.5	0.213+j0.072	0.036+j0.044	6644	470	550
1000 (61)	0.017	0.025	0.031	0.037	0.51	8.3	0.194+j0.064	0.028+j0.042	7148		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, Spacing: one diameter spacing center-to-center.

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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	25.83	8.76	27.86	1.27	32.94	2051	396.24	2234
1 (19)	8.18	26.67	8.76	28.70	1.27	33.78	2119	406.40	2234
1/0 (SOLID)	8.25	26.75	8.76	28.78	1.27	33.86	2156	406.40	2817
1/0 (19)	8.94	27.43	8.76	29.46	1.27	34.54	2211	414.02	2817
2/0 (19)	10.03	28.52	8.76	30.56	1.27	35.64	2339	426.72	3551
3/0 (19)	11.25	29.74	8.76	31.78	1.27	36.86	2487	441.96	4477
4/0 (19)	12.65	31.14	8.76	33.17	1.27	38.25	2662	459.74	5647
250 (37)	14.17	32.87	8.76	34.90	1.27	39.98	2865	480.06	6675
350 (37)	16.79	35.48	8.76	37.52	1.91	43.87	3331	525.78	9345
500 (37)	20.04	38.73	8.76	40.77	1.91	47.12	3813	566.42	13350
750 (61)	24.59	43.54	8.76	45.57	1.91	51.92	4604	622.30	20025
1000 (61)	28.37	47.32	8.76	49.35	1.91	55.70	5280	668.02	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
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 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	0.58	0.0235	0.1837	0.689	11.1549	0.432+j0.141	0.179+j0.059	4285	140	170
1 (19)	0.6923	0.95	0.0223	0.1772	0.722	11.8110	0.539+j0.138	0.291+j0.060	4397	140	170
1/0 (SOLID)	0.3346	0.46	0.0219	0.1772	0.722	11.8110	0.390+j0.135	0.142+j0.057	4407	155	195
1/0 (19)	0.5479	0.75	0.0210	0.1739	0.755	12.4672	0.475+j0.132	0.231+j0.058	4498	155	195
2/0 (19)	0.4364	0.60	0.0198	0.1673	0.820	13.1234	0.422+j0.125	0.184+j0.056	4644	180	220
3/0 (19)	0.3445	0.47	0.0186	0.1608	0.886	14.1076	0.378+j0.118	0.146+j0.054	4806	200	250
4/0 (19)	0.2756	0.38	0.0171	0.1542	0.951	15.0919	0.342+j0.111	0.117+j0.052	4992	235	285
250 (37)	0.2297	0.31	0.0158	0.1509	1.017	16.4042	0.316+j0.104	0.098+j0.051	5223	256	335
350 (37)	0.1673	0.23	0.0140	0.1444	1.148	18.3727	0.278+j0.094	0.073+j0.049	5571	310	375
500 (37)	0.1181	0.16	0.0125	0.1345	1.280	20.9974	0.246+j0.084	0.053+j0.046	6004	375	450
750 (61)	0.0755	0.11	0.0107	0.1280	1.509	24.6063	0.213+j0.072	0.036+j0.044	6644	470	550
1000 (61)	0.0558	0.08	0.0094	0.1214	1.673	27.2310	0.194+j0.064	0.028+j0.042	7148		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
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