28kV AL 100% TRXLPE LCT LLDPE

Single Conductor, 280 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 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:** 280 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 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 280 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	0.887	280	0.967	50	1.167	1168	14	502
1 (19)	0.322	0.92	280	1	50	1.2	1211	14.4	502
1/0 (SOLID)	0.325	0.923	280	1.003	50	1.203	1235	14.4	633
1/0 (19)	0.352	0.95	280	1.03	50	1.23	1270	14.8	633
2/0 (19)	0.395	0.993	280	1.073	50	1.273	1350	15.3	798
3/0 (19)	0.443	1.041	280	1.121	50	1.321	1444	15.9	1006
4/0 (19)	0.498	1.096	280	1.176	50	1.376	1556	16.5	1269
250 (37)	0.558	1.164	280	1.244	50	1.444	1684	17.3	1500
350 (37)	0.661	1.267	280	1.347	50	1.547	1910	18.6	2100
500 (37)	0.789	1.395	280	1.475	75	1.725	2289	20.7	3000
750 (61)	0.968	1.584	280	1.664	75	1.914	2799	23	4500
1000 (61)	1.117	1.733	280	1.813	75	2.063	3236	24.8	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	0.068	0.054	0.24	3.9	0.451+j0.158	0.179+j0.057	3845	140	170
1 (19)	0.211	0.289	0.064	0.052	0.25	4.1	0.558+j0.153	0.291+j0.057	3957	140	170
1/0 (SOLID)	0.102	0.14	0.064	0.052	0.25	4.1	0.409+j0.150	0.142+j0.055	3967	155	195
1/0 (19)	0.167	0.229	0.061	0.05	0.27	4.3	0.494+j0.147	0.231+j0.055	4059	155	195
2/0 (19)	0.133	0.182	0.056	0.049	0.29	4.6	0.440+j0.139	0.184+j0.053	4204	180	220
3/0 (19)	0.105	0.144	0.053	0.047	0.31	5	0.395+j0.131	0.146+j0.052	4366	200	250
4/0 (19)	0.084	0.115	0.049	0.045	0.33	5.4	0.359+j0.122	0.117+j0.050	4553	235	285
250 (37)	0.07	0.096	0.045	0.044	0.36	5.9	0.331+j0.114	0.098+j0.049	4783	256	335
350 (37)	0.051	0.07	0.04	0.041	0.41	6.6	0.293+j0.102	0.072+j0.046	5131	310	375
500 (37)	0.036	0.05	0.035	0.04	0.46	7.5	0.259+j0.090	0.053+j0.045	5564	375	450
750 (61)	0.023	0.033	0.03	0.037	0.54	8.8	0.224+j0.076	0.036+j0.042	6204	470	550
1000 (61)	0.017	0.025	0.027	0.036	0.61	9.8	0.204+j0.068	0.028+j0.041	6708		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	22.53	7.11	24.56	1.27	29.64	1738	355.60	2234
1 (19)	8.18	23.37	7.11	25.40	1.27	30.48	1802	365.76	2234
1/0 (SOLID)	8.25	23.44	7.11	25.48	1.27	30.56	1838	365.76	2817
1/0 (19)	8.94	24.13	7.11	26.16	1.27	31.24	1890	375.92	2817
2/0 (19)	10.03	25.22	7.11	27.25	1.27	32.33	2009	388.62	3551
3/0 (19)	11.25	26.44	7.11	28.47	1.27	33.55	2149	403.86	4477
4/0 (19)	12.65	27.84	7.11	29.87	1.27	34.95	2316	419.10	5647
250 (37)	14.17	29.57	7.11	31.60	1.27	36.68	2506	439.42	6675
350 (37)	16.79	32.18	7.11	34.21	1.27	39.29	2842	472.44	9345
500 (37)	20.04	35.43	7.11	37.47	1.91	43.82	3406	525.78	13350
750 (61)	24.59	40.23	7.11	42.27	1.91	48.62	4165	584.20	20025
1000 (61)	28.37	44.02	7.11	46.05	1.91	52.40	4816	629.92	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	0.0207	0.1772	0.787	12.7953	0.451+j0.158	0.179+j0.057	3845	140	170
1 (19)	0.6923	0.95	0.0195	0.1706	0.820	13.4514	0.558+j0.153	0.291+j0.057	3957	140	170
1/0 (SOLID)	0.3346	0.46	0.0195	0.1706	0.820	13.4514	0.409+j0.150	0.142+j0.055	3967	155	195
1/0 (19)	0.5479	0.75	0.0186	0.1640	0.886	14.1076	0.494+j0.147	0.231+j0.055	4059	155	195
2/0 (19)	0.4364	0.60	0.0171	0.1608	0.951	15.0919	0.440+j0.139	0.184+j0.053	4204	180	220
3/0 (19)	0.3445	0.47	0.0162	0.1542	1.017	16.4042	0.395+j0.131	0.146+j0.052	4366	200	250
4/0 (19)	0.2756	0.38	0.0149	0.1476	1.083	17.7165	0.359+j0.122	0.117+j0.050	4553	235	285
250 (37)	0.2297	0.31	0.0137	0.1444	1.181	19.3570	0.331+j0.114	0.098+j0.049	4783	256	335
350 (37)	0.1673	0.23	0.0122	0.1345	1.345	21.6535	0.293+j0.102	0.072+j0.046	5131	310	375
500 (37)	0.1181	0.16	0.0107	0.1312	1.509	24.6063	0.259+j0.090	0.053+j0.045	5564	375	450
750 (61)	0.0755	0.11	0.0091	0.1214	1.772	28.8714	0.224+j0.076	0.036+j0.042	6204	470	550
1000 (61)	0.0558	0.08	0.0082	0.1181	2.001	32.1522	0.204+j0.068	0.028+j0.041	6708		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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