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 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	80	1.227	623	14.7	502
1 (19)	0.322	0.920	280	1.000	80	1.260	646	15.1	502
1/0 (Solid)	0.324	0.922	280	1.002	80	1.262	668	15.1	633
1/0 (19)	0.351	0.949	280	1.029	80	1.289	688	15.5	633
2/0 (19)	0.395	0.993	280	1.073	80	1.333	745	16.0	798
3/0 (19)	0.443	1.041	280	1.121	80	1.381	812	16.6	1006
4/0 (19)	0.498	1.096	280	1.176	80	1.436	892	17.2	1269
250 (37)	0.558	1.164	280	1.244	80	1.504	981	18.0	1500
350 (37)	0.661	1.267	280	1.347	80	1.607	1149	19.3	2100
500 (37)	0.789	1.395	280	1.475	110	1.795	1486	21.5	3000
750 (61)	0.968	1.584	280	1.664	110	1.984	1890	23.8	4500
1000 (61)	1.117	1.733	280	1.813	110	2.133	2246	25.6	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	0.076	0.055	0.122	1.97	0.216 + j0.757	0.162 + j0.053	2735	140	170
1 (19)	0.211	0.266	0.071	0.053	0.130	2.10	0.320 + j0.756	0.266 + j0.053	2826	140	170
1/0 (Solid)	0.102	0.128	0.070	0.053	0.131	2.12	0.182 + j0.753	0.128 + j0.051	2832	155	195
1/0 (19)	0.167	0.211	0.067	0.052	0.138	2.23	0.265 + j0.752	0.211 + j0.051	2907	155	195
2/0 (19)	0.133	0.167	0.062	0.050	0.148	2.39	0.221 + j0.748	0.167 + j0.049	3028	180	220
3/0 (19)	0.105	0.132	0.058	0.048	0.160	2.59	0.186 + j0.744	0.132 + j0.048	3161	200	250
4/0 (19)	0.084	0.105	0.053	0.046	0.174	2.81	0.159 + j0.739	0.105 + j0.046	3314	235	285
250 (37)	0.071	0.090	0.050	0.044	0.186	3.01	0.144 + j0.735	0.090 + j0.045	3502	256	335
350 (37)	0.050	0.065	0.044	0.042	0.211	3.41	0.119 + j0.728	0.065 + j0.042	3788	310	375
500 (37)	0.035	0.046	0.038	0.041	0.240	3.88	0.011 + j0.719	0.046 + j0.041	4143	375	450
750 (61)	0.024	0.033	0.033	0.038	0.278	4.49	0.087 + j0.709	0.033 + j0.038	4666	470	550
1000 (61)	0.018	0.026	0.029	0.037	0.312	5.04	0.080 + j0.703	0.026 + j0.037	5079		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	22.53	7.11	24.56	2.03	31.17	927	373.38	2234
1 (19)	8.18	23.37	7.11	25.40	2.03	32.00	961	383.54	2234
1/0 (Solid)	8.23	23.42	7.11	25.45	2.03	32.05	994	383.54	2817
1/0 (19)	8.92	24.10	7.11	26.14	2.03	32.74	1024	393.70	2817
2/0 (19)	10.03	25.22	7.11	27.25	2.03	33.86	1109	406.40	3551
3/0 (19)	11.25	26.44	7.11	28.47	2.03	35.08	1208	421.64	4477
4/0 (19)	12.65	27.84	7.11	29.87	2.03	36.47	1327	436.88	5647
250 (37)	14.17	29.57	7.11	31.60	2.03	38.20	1460	457.20	6675
350 (37)	16.79	32.18	7.11	34.21	2.03	40.82	1710	490.22	9345
500 (37)	20.04	35.43	7.11	37.47	2.79	45.59	2211	546.10	13350
750 (61)	24.59	40.23	7.11	42.27	2.79	50.39	2813	604.52	20025
1000 (61)	28.37	44.02	7.11	46.05	2.79	54.18	3342	650.24	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	0.0232	0.1804	0.400	6.4633	0.216 + j0.757	0.162 + j0.053	2735	140	170
1 (19)	0.6923	0.87	0.0216	0.1739	0.427	6.8898	0.320 + j0.756	0.266 + j0.053	2826	140	170
1/0 (Solid)	0.3346	0.42	0.0213	0.1739	0.430	6.9554	0.182 + j0.753	0.128 + j0.051	2832	155	195
1/0 (19)	0.5479	0.69	0.0204	0.1706	0.453	7.3163	0.265 + j0.752	0.211 + j0.051	2907	155	195
2/0 (19)	0.4364	0.55	0.0189	0.1640	0.486	7.8412	0.221 + j0.748	0.167 + j0.049	3028	180	220
3/0 (19)	0.3445	0.43	0.0177	0.1575	0.525	8.4974	0.186 + j0.744	0.132 + j0.048	3161	200	250
4/0 (19)	0.2756	0.34	0.0162	0.1509	0.571	9.2192	0.159 + j0.739	0.105 + j0.046	3314	235	285
250 (37)	0.2329	0.30	0.0152	0.1444	0.610	9.8753	0.144 + j0.735	0.090 + j0.045	3502	256	335
350 (37)	0.1640	0.21	0.0134	0.1378	0.692	11.1877	0.119 + j0.728	0.065 + j0.042	3788	310	375
500 (37)	0.1148	0.15	0.0116	0.1345	0.787	12.7297	0.011 + j0.719	0.046 + j0.041	4143	375	450
750 (61)	0.0787	0.11	0.0101	0.1247	0.912	14.7310	0.087 + j0.709	0.033 + j0.038	4666	470	550
1000 (61)	0.0591	0.09	0.0088	0.1214	1.024	16.5354	0.080 + j0.703	0.026 + j0.037	5079		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.